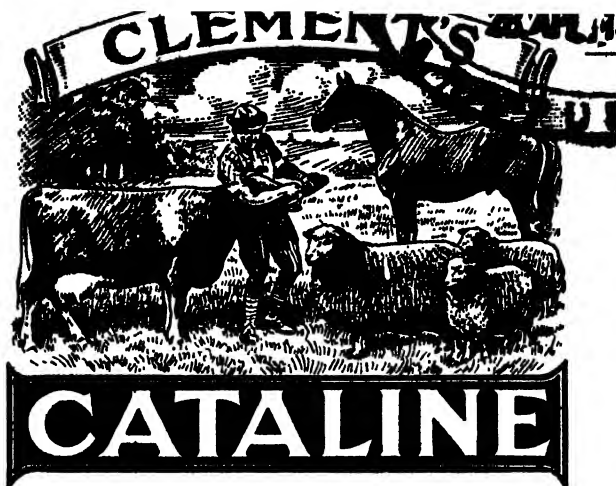




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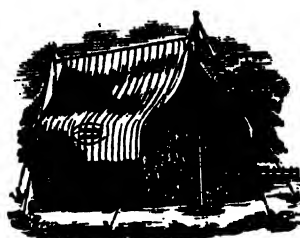
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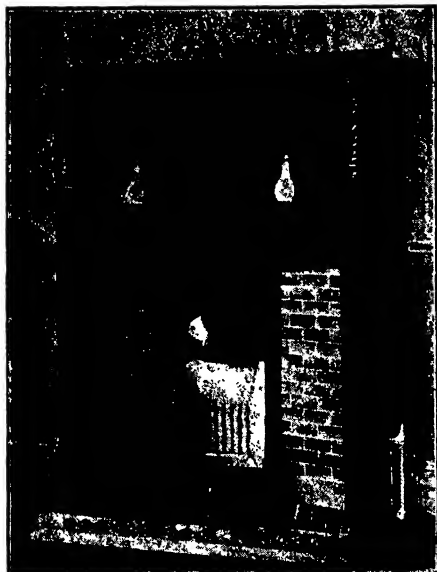
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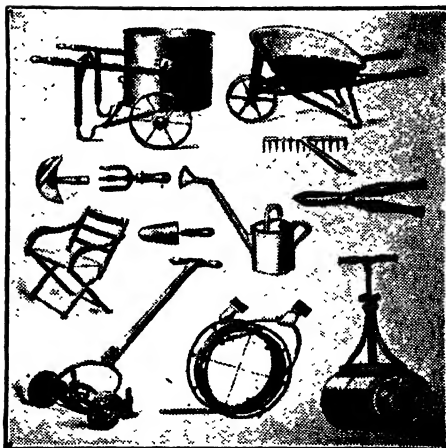
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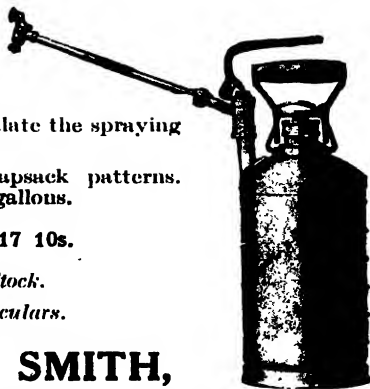
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" He that goes about to forward agricultural improvement must begin by finding out the true reason of what is called routine, or ' the custom of the country.' It sometimes happens that these reasons are only accidental, and then you may dismiss them fearlessly ; but often it turns out that every-day practice rests on a solid foundation of facts ; and then if you make an onslaught on local prejudices, they will be sure to beat you."

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JOURNAL

OF THE

BATH AND WEST AND SOUTHERN COUNTIES SOCIETY.

INTRODUCTION.

By F. H. Storr.

This Volume of the Journal, the first of a new series following the established custom of the Society, marks also the completion of one hundred and fifty years of the Society's existence. That period of time has witnessed the rise of scientific agriculture; in other words, such methods as prevailed in the country before that date were the result of practise without reasoned relation to cause and effect. The first article in this number of the Journal gives an admirable survey of the steps by which science gradually invaded the empirical agriculture of the 19th century, though reference to the Society's publications will show that the spirit of enquiry was alive long before it found means to work out successfully the problems it had envisaged. The early volumes of the Journal are full of statements which indicate clearly that the men of the 18th century appreciated not only the need, but the proper methods of approaching the difficulties of crop production. In the rather stilted phraseology of the time, expression was given to this appreciation in such phrases as "Agriculture is a science as well as an Art," "Experiments are the life and soul of husbandry, but

they must not be made at random." or "Husbandry hath been indebted . . . to an acquaintance with other branches of science." The founders of the Society cannot be blamed for failing at once to achieve results of permanent value. The clergyman near Bath, who studied the cultivation of potatoes in the seventeen nineties, was on a false trail when he thought that plants got nourishment from pores in their skins, and that only particles of soil of a certain size were suitable for the food of each species, though we should agree with him in one conclusion, that potatoes as part of a mixture in bread are to be preferred to turnips. But the spirit of enquiry was abroad, and was one of the main causes of the foundation of the Bath and West Society.

Anniversaries are the time for taking stock of past achievements, and without undue prejudice it may fairly be a matter of congratulation that the Society's record is so full of activities which have resulted in a permanent benefit to the nation. From the foundation of the Society, when "a small piece of land was taken into hand, for the purpose of making Experiments," that record includes investigations into most of the problems of first rate importance to the farmer. One of the features of these problems is their tendency to be permanent in the sense that the answers to them admit of almost indefinite elaboration, so that continued activity in research work is in itself a test of the Society's general vigour. This Journal is in part a reflection of its activities in that and many other fields, such as their Annual Exhibitions, and we believe that the sixth series will prove that old age has only increased the value and importance of the Society to Agriculture.

Original Articles and Reports.

I.—AGRICULTURAL RESEARCH IN ENGLAND.

A RETROSPECT.

By Sir A. Daniel Hall, K.C.B., LL.D., D.Sc., F.R.S.

For many years the history of agricultural research in England is but the story of the Rothamsted Experimental Station. Before Lawes began his experiments in the late thirties of the nineteenth century, agricultural science barely existed. Such knowledge as had been acquired was put together by Sir Humphrey Davy in 1813, in the lectures he delivered before the old Board of Agriculture, but it is clear from their perusal that he was still without a grasp of the central fact in crop production, that the carbonaceous material of which plants are mainly composed was drawn entirely from the air and not from the humus of the soil. It was not until Liebig delivered his famous report to the British Association in 1840 that the world obtained a story which gathered up the work of men like Priestley, Bonnat, Ingenhousz, Sennebier and de Saussure, into a connected whole. The green plant utilises sunlight in order to effect the decomposition of the carbon dioxide in the air, the carbon it retains for manufacture into sugar, starch and other materials out of which it builds its tissues, the oxygen it returns to the atmosphere. The plant also requires certain minerals which it gets from the soil; manures supply any deficiencies in the soil and assure that the crop is not stinted in this respect. Finally, the plant contains compounds of nitrogen and it was long a matter of controversy whether it could draw upon the free nitrogen gas in the atmosphere or can only utilise combined nitrogen in the soil or manures. Liebig thought there was enough ammonia in the air and in the rain to satisfy the needs of vegetation. Lawes, however, looking at the effects of farmyard manure, of ammonia salts and nitrate of soda upon plants, was convinced that they could only get nitrogen through their roots, and for the next generation he and Gilbert devoted a large part of their experimental work to the

demonstration of the general truth of this proposition. The Rothamsted experiments from 1843 onwards built up a coherent theory of fertiliser action, which became the common property of British farmers and guided their use of the artificial fertilisers then available—sulphate of ammonia and nitrate of soda, guano, bones and dissolved bones, superphosphate, and the potash fertilisers which later became available with the opening up of the German mines. At the same time, Lawes and Gilbert laid the foundations of the broad theory of animal nutrition by their studies of the composition of animals in the store, half fat and fat stages. The manifold activities of Rothamsted were, however, almost wholly the work of Lawes and Gilbert; no large staff was ever employed there, for indeed the working expenses of the Station were a heavy drain upon the resources of one man who would hardly even be counted rich by modern standards. When Lawes finally endowed the Station to provide for its continuance, he handed over £100,000 for the maintenance of the laboratory and the land on which the experiments were carried out. But Lawes' example was not followed either by the State or by any of the Universities, none of which at that time were seriously concerned with agriculture as a subject of study or investigation.

The Royal Agricultural Society, founded in 1839, numbered among its early members many men who were keenly interested in the applications of science to farming, and the Society soon proceeded to appoint a chemist and in 1871 set up an experimental station of its own at Woburn.

The Society's first chemist, J. T. Way, published in 1851 and 1853, two papers on the retention of manurial substances by the soil, which have always been regarded as pioneer work. Liebig at the time recognised their importance, because among other things they indicated the mistake he had made in rendering his mineral fertilisers insoluble (whereas Lawes had been successful by rendering his phosphates soluble) for fear they should be washed out by the soil. But it is only within the last few years that the full bearing of Way's work has been seen, in the extension of his conception of "replaceable bases," by Gedroiz, the Russian chemist, to explain so much of the behaviour of the soil in relation to fertilisers and the crop. Way's early death was a great loss to agricultural science in England. His work was further developed by his successor as chemist to the Royal Agricultural Society, Dr. Augustus Voelcker, a Hanoverian who had come to England to join the staff of the newly founded Royal Agricultural College at Cirencester.

Dr. Voelcker the first, was active in investigation all his life; a number of valuable papers are under his name in the *Journal of the Royal Agricultural Society*, and if he made no great discovery, he had a powerful influence in England in maintaining the scientific outlook on agriculture. He came very near to establishing the fact that clover did gather nitrogen from the atmosphere, but as there was then no clue to the mechanism, bacteria not having been "invented," the masterful views of Gilbert that plants could not assimilate nitrogen prevailed, and Voelcker's paper was only justified when Hellriegel and Wilfarth at last discovered the organism that "fixes" nitrogen in the nodules on the clover root. It must also be remembered that Voelcker could only investigate in his spare time; it was as an analytical chemist that he had to live, and it was then in his laboratory that the next generation of English agricultural chemists were trained, including the late F. J. Lloyd, Bernard Dyer and Dr. Voelcker the younger, who are still with us.

It was this lack of men who could devote their whole mind to research that accounts for the comparative barrenness of agricultural discovery in this country after the magnificent beginning that Lawes and Gilbert had made. Robert Warington (1838-1907) was for a time an assistant in the laboratory of the Royal Agricultural College and began at once to do some original work, but he passed from there to become chemist at Lawes' tartaric acid factory, and it was only when he was able to retire that he could return to agricultural chemistry and found a place in the Rothamsted Laboratory. He took up the subject of nitrification which had just been elucidated as a bacterial action by the work of Schloesing in Paris. Warington did much to throw light on the process and had practically completed the isolation of the organisms concerned, when as the culmination of a longstanding disagreement with Gilbert, he had to leave Rothamsted Laboratory. Before Warington could round off his work for publication—and he was the type of investigator who was rigorous with himself in demanding that no steps should be left unproved—Winogradsky published his elegant method of isolating the nitrification organisms on a silica jelly, and Warington's work became of secondary account on the roll of discovery. It was a bitter blow to Warington, for he had no further opportunity of investigation and died a disappointed man. Though it is easy to understand the quarrel between Gilbert and Warington, no man may apportion the blame. Gilbert was an autocrat with a touch of the spoiled child about him and was fiercely intolerant of rivalry, while Warington diffused an acid atmosphere of criticism that cloaked his essential integrity.

This same question of nitrification provoked some valuable work from Munro, then teaching chemistry at Downton, an offshoot from the College at Cirencester, but he too found no permanent career in research and was early lost to agricultural chemistry. The same may almost be said of Dr. Bernard Dyer, who in a paper published in 1894 introduced the idea of evaluating the mineral requirements of soils by extracting them with a one per cent. solution of citric acid, a method which at once became standard practice. A later paper traced the retention in the soil of the phosphoric acid and potash applied to the classic Rothamsted plots, but unfortunately the demands of a busy practice as an analyst has deprived agricultural chemistry of Dr. Dyer's powers. One other chemist was at work in those dark days when no official recognition was accorded to agricultural science in England and that was the late F. J. Lloyd. He was retained by the Bath and West Society, which, about 1893, began to interest itself seriously in the improvement of cider making. By that time Pasteur's work had explained the process of fermentation and established the existence of various strains of yeast, which if they all produce alcohol also generate various other bodies in quantities which are small, but yet determine the flavour of the fermented liquid. Lloyd acquired the necessary technique and set himself to study the cider yeasts, to trace their relative effects, and at the same time to follow up the other organisms that induce decay and disease in the finished cider. It was pioneer work and the first attempt to reduce the cider making process to a system, and if the time and resources at Lloyd's disposal were insufficient to do more than enable him to explore the field, his work had this enduring result that it led to the foundation of the Fruit and Cider Institute at Long Ashton.

The investigations on cider making were carried out on the premises of Mr. R. Neville Grenville of Butleigh Court, who supplied the plant and the apples. The cost was borne by the Society from 1894 to 1902, and the Board of Agriculture made grants in aid, amounting in all to £600.

Equally extensive was Lloyd's investigation of the process of making Cheddar cheese, on which he was engaged for eight years, 1891-98, again at the instance of the Bath and West Society. At the time Lloyd began his work considerable diversity existed in the processes of Cheddar Cheese making both in its native county of Somerset, in Scotland, and in the Canadian factories. Naturally they had main features in common, *e.g.*, the development of acidity in the milk before renneting and in the after handling of the curd,

but it was Lloyd's work which reduced these questions of degree of acidity and temperature to definiteness and produced a standardised process, applicable either to farm or factory production. Lloyd described the organisms causing the chief defects occurring in Cheddar cheese and rightly fixed on cleanliness as the one method of avoiding these troubles. He demonstrated the all-importance of the lactic acid bacteria in cheese-making, but his conclusion that these organisms are responsible for ripening has not been accepted in the light of Russell and Babcock's contemporary work on the function of the enzymes of milk. Lloyd's investigations on cheese-making were published by the Board of Agriculture in 1899; his reward from them was small, in fact his long pre-occupation with cheese and cider questions acted detrimentally on his practice as an analyst.

A new movement towards research began with the institution of State-aided agricultural education which grew up after the local authorities were provided with certain funds, the "whisky money," available for technical education. This led within the years 1890-1894 to the foundation of agricultural colleges at Cambridge, Leeds, Newcastle, Bangor, Aberystwyth, Nottingham, Reading, Wye and Newport, all equipped with laboratories and some facilities for experimental work. A number of young men of science were recruited for service in these colleges, and though there was no money specifically available for research, some of these men were of the temper to embark upon original work. It is the mark of a scientific training that the student becomes aware that his subject is still in the making, that no knowledge is final and that if he is to teach effectively he must take part in investigation.

Within a very few years Biffen was beginning his cross breeding experiments with wheat, Somerville had opened his campaign for the improvement of grass land by the use of basic slag, and Wood had organised his feeding trials which later led to a revision of the theory of the nutrition of animals. Hendrick and Golding belong to this generation, Russell and Crowther were recruited a little later. But it was owing to the work of these men, and the interest they aroused by their teaching and their example, that the farming community and the general public became persuaded both of the value of science to agriculture and the need for some systematic provision for research. Such investigations as were going on were only done as it were with the left hands of men who were busily engaged in teaching and organisation, and at Colleges which were young and without any spare resources which could be definitely

allocated to research. The Board of Agriculture made certain grants in aid to the Colleges but regarded research as outside its purview. Indeed, when in 1903 the Rothamsted Committee made an appeal to the Board for assistance to extend the scope of its work the then President, Mr. Robert Hanbury, refused to give any consideration to the proposal. He declared that other countries like America and Germany to whom agriculture was of greater national importance would do the investigation, England could be content to utilise the results they obtained. And for the time the only substantial help Rothamsted received was from private benefactors, like Mr. J. F. Mason, of Eynsham, and the Goldsmith's Company, who gave £10,000 to provide for a research worker on soils.

These gifts were indications of the awakening interest in agriculture and the growth of a feeling that in an England which was being rapidly urbanised, something should be done to help the farmer to maintain his position. It was not, however, until 1909 that the State did acknowledge the necessity of providing for research. Then Mr. Lloyd George, with characteristic imagination, made one novel step forward by setting up the Development Fund. Instead of merely informing the Departments, for by this time there was a Board of Agriculture for Scotland, that they might spend money on research he appointed the Development Commission and entrusted it with a large sum of money, three and a half million pounds, to be expended on schemes for the permanent improvement of agriculture, rural industries, and fisheries, among which objects research had the most prominent place. By this method he ensured that some sort of a permanent organisation could be built up, and that there should be a body thinking about agriculture and the opportunities for its improvement, alongside the ordinary executive departments.

The Development Commission proceeded to work upon two main principles—the creation of Research Institutes by subjects, and the association of these Institutes with Universities and kindred bodies rather than with the Government Departments. The field of Agricultural research embraces many widely differing subjects ; for each of these main divisions an Institute was set up that could embark upon a continuous programme of investigation covering all the diverse aspects of that subject. For example, to Rothamsted was allocated the question of the soil ; at that centre there could then be built up a team of workers—chemical, physical, botanical, bacteriological, etc., all attacking the problems of the soil from one or another angle and co-ordinated by the Director to a common end.

Had a number of institutions like the Agricultural Colleges been given each a grant for research, almost inevitably everyone would have attempted work on soil, but no one would have had the resources on which to go very far. There would have been the danger on the one hand of overlapping and on the other hand of neglect of necessary if unattractive spade work. The second principle—of delegating research to the Universities, secured the freedom of the research workers to get on with their special task without regard to political considerations and without the fear of interruption through some administrative exigence, which might demand the services of every man in the Office whose immediate work could be deferred. It avoided, too, the question of departmental responsibility. The research worker publishes his conclusions on his own responsibility, a Government Department engaged in research may find itself (has in fact found itself in other countries), in the dilemma of having to choose between suppressing an investigator's report or publishing something counter to its own policy. Research is a personal matter, it is better that the Department should not be committed to the expert's opinion but should be able to use it or not in the light of other considerations. That this is a matter of real importance will be better appreciated when it is remembered that research deals not only with soils and animals, but also with diseases that may call for administration and with economic questions like costs of production and marketing, which touch both political and trading interests.

The organisation which the Development Commission thus set on foot had barely got to work when the war intervened. When peace came, the then Government, impressed by the importance of research, made liberal provision for the extension of the scheme. Further supplies came when the representatives of the farmers, on the repeal of the Corn Production Act, asked that as some return for the assistance they were forfeiting, a million pounds should be set aside for the furtherance of research and education, and still further assistance to round off the scheme was forthcoming from the Labour Government of 1924.

As a result, Great Britain to-day stands possessed of a reasonably complete scheme of research institutes, covering most of the aspects of the subject that are ripe for attack. The nutrition of the plant, its diseases, its relation to the soil are dealt with at Rothamsted. Plant breeding has one centre in Cambridge, another at Aberystwyth, a third in Scotland. Animal breeding problems belong to a growing Institute in Edinburgh, though some work is also going on at

Cambridge. At Cambridge too, proceed investigations upon animal nutrition and upon the physiology of reproduction. A second nutrition station is active at Aberdeen, while the dairy research is centred at Reading. Fruit growing problems occupy the attention of two stations, one near Bristol, the other at East Malling, in Kent, while another unit at Waltham Cross deals with the work of the cultivator under glass. Animal disease, a vast field for research, has been provided for by an Institute at Cambridge, a second at the Royal Veterinary College, a third in Scotland, the Ministry's Veterinary Laboratory at Addlestone, and a Department in the School of Hygiene concerned specially with Helminthology. Machinery is dealt with at Oxford, where also is situated the Institute for Research in Agricultural Economics, which again correlates the work of the costings advisers at the agricultural colleges. It would be tedious here to enumerate the minor agencies by which the work is also extended into certain special fields, but a full account of all the work in progress may be read in the recent digest which Mr. Wilkins has prepared for the Ministry, entitled "Research and the Land."

While no one can pretend that the organisation is complete—the more work is done the more do opportunities for further constructive work reveal themselves, at any rate a sound foundation has been laid within the last fifteen years, and future growth will very largely depend upon the development of the men who have been recruited for the service, for it has to be remembered that no stock of investigators existed to be drawn upon. Research is essentially the outcome of an individual of a special type who has to be found and allowed to grow into his powers. The organisation can only give him his opportunity, but the organisation now exists for Great Britain. The advent of the Empire Marketing Board, with its vision that its great field for constructive action lies in the promotion of research, encourages the hope that the lead given in Great Britain may be followed by a wider Empire organisation.

II.—THE DEVELOPMENT OF THE ANIMAL FOR MEAT.

By John Hammond, M. A., School of Agriculture, Cambridge.

INTRODUCTION.

The production problems which confront the producer of meat in this country may be roughly classified under two headings :— (1) Those which affect the live weight growth of the animal, and so the quantity of produce which he has to sell, and (2) Those which affect the proportions of the body or the composition of the growth made and so the quality. It is particularly with these two questions that the present paper deals.

While in the case of wheat production the best quality wheat comes from abroad, so that quantity will usually pay better than quality in this country, with meat the conditions are reversed and generally speaking the meat which is imported (except Danish bacon) commands a lower price per stone than that produced in this country. It should, therefore, be the object of meat producers in this country to improve the quality and so place it quite out of competition with supplies from abroad. The little extra trouble taken in selecting good animals to feed or in putting on the " finish " to a beast, therefore, is usually well repaid.

The British public as a whole requires a better quality carcase than does the Continental public, for the system of cooking differs, so that carcases and joints which are capable of being roasted (the favoured British system of cooking) command higher prices than those which are only fit to stew or boil. A butcher in a high-class trade who buys a badly shaped or badly finished animal will, therefore, have on his hands a very large proportion of second and third quality joints (broiling or stewing) which he often cannot dispose of, except at a loss. This applies particularly to the London and South of England trade, for as one goes North more broiling and stewing is done, and so the demand for these joints is better, as it is also in the winter months of the year as compared with the summer. It is not surprising, therefore, that the judges in the carcase classes at the Smithfield Fat Stock Show pay particular attention to the proportions and finish of the animal which render it suitable to meet the public demand.

The farmer, however, has often to weigh quality against quantity, and it is in the proper adjustment of these two that the best com-

mercial proposition lies. As an example, the popular blue grey Aberdeen Angus-Shorthorn Cross combines the weight of one parent with the good proportions (small head and legs) and even fleshing of the other parent.

One other trend in the meat trade must be referred to here, and that is the general tendency of the public to demand smaller joints. The effect of this is seen in the higher prices butchers will pay per stone for small animals than for large, and also in the younger ages at which animals are now being slaughtered. While the demand for small joints can be met by the use of smaller breeds, it will probably be found better from the farmer's point of view to develop early maturity (see below) in the breed and kill at younger ages than before, thus getting both weight for age and quality; some of the difficulties which confront him in attempting to do this are mentioned later.

QUANTITY—GROWTH IN LIVE WEIGHT.

The agricultural conditions under which meat is produced are so varied that it is not possible to describe them all. In the main, however, one farmer breeds the animal and rears it and passes it on to another farmer to fatten. This system is generally associated with a "store" period, for the breeder and rearer of cattle usually has cheap land, and not too good pasture or root crops on which he can grow an animal slowly but not fatten it quickly; he then passes the animal on to districts where they grow better roots or grass to be finished off quickly. In fact, this is the only advantage in or reason for a "store" period, for the total amount of food consumed by the animal in its life increases as the "store" period is prolonged. When, therefore, the land is such that crops suitable for fattening can be produced it will probably be found better to cut down or do away with the store period altogether. This system which usually implies that the farmer both breeds and feeds the animal, is becoming more popular since dealers' profits are eliminated, no big outlay at any one time of year is required, and the animal may be killed at a younger age and, therefore, with less total consumption of food, as well as meeting the public demand for smaller joints.

This latter system, however, is not without its difficulties, which in the main are feeding problems. The food an animal eats is used for two main purposes; first for "maintenance" or to keep the animal alive and well, and secondly, what remains over and above this for "production"—*i.e.*, growth, fattening, milk, etc. If two

of the latter processes are going on at the same time, such as fattening a milking cow or young growing animal, it will be seen that the surplus of food over and above that required for "maintenance" must be correspondingly increased. How to increase the surplus above the "maintenance" requirement of the animal economically, is therefore the main problem in feeding. This may be done by feeding large quantities of concentrated food which contain a large food value in small bulk, but these foods have to be purchased and are, on the whole, comparatively expensive. With home-grown foods such as grass, hay, roots, silage, etc., the difficulty is that they are often so bulky, especially when produced on poor grass or root-land, that the animal cannot eat enough of them to have a surplus for "production" or at any rate for growth and fattening at the same time, which is an essential where early maturity is desired. An animal feeding on bulky food soon satisfies its appetite, or fills its stomach, and does not eat more although the food value it has consumed is small. The bulkiness of these foods lies mainly in the fibre they contain, which increases with their age; for example, young growing grass if dried and made into hay is not bulky but has a feeding value equal to or better than linseed cake (see Woodman, Blunt and Stewart), whereas after the grass has flowered the fibre in it increases and the feeding value is low. This probably constitutes the difference between good and bad pasture, the former continuing in a young growing state all through the season while the latter runs to bents and fibre. Whatever the natural conditions of the farm may be, however, the bulkiness of the forage crops grown can be reduced by good management—with heavy grazing land by slagging, which encourages clovers having a long growing period and little fibre; by grazing close so that tufted, fibrous growth is avoided; by cutting hay early before it has turned fibrous and in the case of sheep folded on arable catch crops by feeding the crop off while it is still young, sowing these crops for succession and not all at once. As an example of the latter a flock of lambs folded on a large field of veitches all sown at the same time put on weight at the rate of about 5lbs. a week for the first fortnight, but after they had been on the field for six weeks and the veitches had become fibrous, their rate of growth fell to about 2lbs. per week for the reason that they could not eat sufficient of this bulky crop to supply nourishment for both rapid fattening and growth.

The control of bulk (or fibre) in the food is, therefore, one of the main factors in successful feeding. Good roots are not a bulky food in this sense, although they appear to be, for their bulk consists mainly of water which takes the place of drinking water and is

easily absorbed ; in good root districts, such as Aberdeen and Norfolk large quantities of roots may successfully be fed, whereas in other districts where they contain less water and are more fibrous their use is more limited.

From what has been said above it will readily be seen that the control of bulk in the ration of a fattening animal is of much more importance when the animal is also growing at the same time. This is one of the chief difficulties met with where the age of maturity and killing is being reduced under the system in which the farmer both breeds and feeds his stock, but the control of it by the methods outlined above will do much to increase early maturity. As an example, the green forage crop system of the Hampshire Down sheep breeders has materially contributed to the development of fat lamb production by that breed. The breeders of pedigree beef cattle on the other hand have relied more on the extended use of concentrated feeds, which may be a justifiable expenditure where pedigree stock are concerned, but in commercial meat production this cake bill may be cut down by the use of one or other of the methods mentioned above.

When the farmer is producing early maturing stock—baby beef, fat lambs or porkers—it is essential that they should be “ kept going ” from birth, and the most critical period is the time after weaning. At this time the animal proteins of the milk are withdrawn and the animal has to live on vegetable ones entirely, many of which do not contain all the ingredients necessary to build up its body flesh. It is, therefore, advisable to see that such animals have a good mixture of different concentrated foods at this time ; the various lamb-foods that are made up by merchants are an example of this, as also are the additions of blood, meat, or fish meal to the rations of pigs when the most suitable feed—skim milk or whey—is not available. The control of bulk in the food of young calves or lambs is also important at this stage, for their stomachs are not yet fully developed, and the feeding of much fibrous food at this stage will cause them to become “ pot-bellied.”

At a still earlier stage of growth the milk supply of the dam is most important, particularly in pigs and sheep where this point is often overlooked although many other qualities and fancy points are often paid much attention to in the selection of breeding stock. Large litters in pigs and a high percentage of twins in sheep do much to lower the initial cost of the young animal, for the cost of the keep of the dam has to be divided among the litter in estimating their

cost production ; but high fertility is of doubtful value when the milk supply of the dam is insufficient. Too often when the selection of the breeding stock is being made at an early age the best developed animals are picked out irrespective of whether they come from a large litter or a small one. With sheep, even at seven months old, on the average the single lambs are larger than the twins, so that unless they are marked and picked over separately the majority of those selected will be singles and the fertility of the flock will be lowered. In this way many flocks of sheep and herds of pigs have been improved for show purposes, but their value for commercial purposes has been decreased. If the best of both singles and twins are selected due weight will have been given to the milking qualities of the dam. Besides selection much can be done by feeding to improve the milk supply. The udder develops during the latter part of pregnancy and suitable feeding for several weeks before parturition will do much to improve the milk supply after it, and also the strength of the young when they are born ; the dam should be brought into good hard condition, but not fat. With ewes the supply of green crops with oats, peas, clover hay or malt culms will help to maintain the milk flow when she is suckling, while with sows a supply of flesh forming rather than fattening foods should be given.

With cattle under commercial conditions the problem is different. In the pure beef breeds the cow suckles her calf, but with the dual purpose or milk breed the calf is usually hand reared, except in pedigree herds when rapid growth is required. The production of veal in this country, except from calves of a few weeks old, is not so general as it is on the Continent, where purely milk breeds are more generally kept. The high class beef or dual purpose calf is too valuable to be slaughtered at an early age, as he starts life with a high overhead charge—the keep of his dam for a year—and his capabilities for development are such that it generally does not pay to kill him until these are expressed at beef or baby beef age. On the other hand, the calves of a milk breed such as the Friesian do not start with high overhead charges, as they are a by-product of milk production, and so may well be converted into veal. For this they are particularly suitable because, as a rule, the calves of milk breeds are relatively large at birth and by suitable feeding with some milk, milk substitutes, porridge or oats and cake, may be converted into choice veal at 3-5 months old. This system might well be considered by dairy farmers supplying milk to towns (many of whom have surplus milk in May and June and accommodation in sheds

while the cows are out at grass) as an alternative to selling their calves for a few shillings at a week or two old ; in early life growth is rapid, and the carcase is generally worth more per lb. at four months than at four weeks old.

Before leaving the subject of live weight growth, attention should be drawn to the difference between commercial meat production and the breeding of pedigree animals for meat. Many things are done by the pedigree breeder which are not profitable in commercial production ; for him the first essential is to be able to pick out the animal which develops its proportions best at an early age (see below) and to this end he feeds heavily so that the full capabilities of the animal for development are shown up. He also overfattens so that he may more easily pick out and reject those animals which lay on patchy fat and select only those which carry an even layer. Not much progress in selection for either meat or milk can be made without good feeding.

If a system of "meat recording"—weighing the animal at, say, monthly intervals—were introduced it would, as milk recording has already done, act as a great stimulus to improvement in respect of feeding the young animal and in developing early maturity. It would show up the weak points in feeding and management at different stages of growth which, owing to the diversity of agricultural conditions, would often only apply locally. It has already been tried by the writer on a flock of sheep and indicated there the suitability or unsuitability of the different forage crops used, as well as many other points in management. Its application to bacon pigs is even more important, for in addition it is essential in this case to send them to the factory at a standard weight (200lbs.) and that they should reach this weight in the least possible time, experiments having indicated that generally the animal which reaches the standard weight in the least time does so with the least consumption of food.

QUALITY—DEVELOPMENT IN PROPORTIONS.

An essential for quality in all classes of meat producing animals is that they should be well proportioned, *i.e.* that the "waste" or offal parts—head, shanks, etc.—should be of small size as compared with the carcase, and that the carcase itself should contain a high proportion of the best cuts (such as loin) as compared with the inferior cuts (such as neck, brisket and shin).

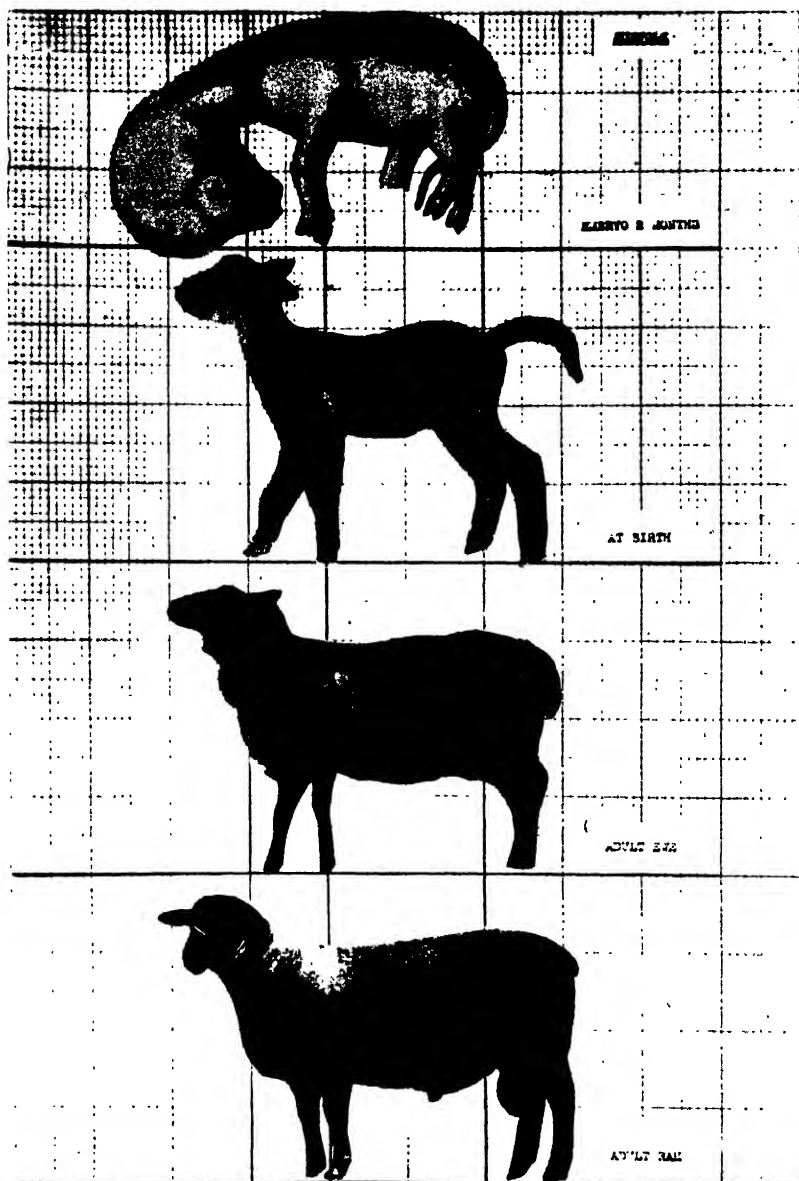


FIG. 1.

Showing the change in the proportions of the Suffolk Sheep with age and sex. All the animals have been reduced to the same height at the withers so that the proportions of the body are shown in terms of this measurement. Note especially the reduction in the proportion of the head, neck and legs with age after birth, and also the increase in relative length and depth of body.

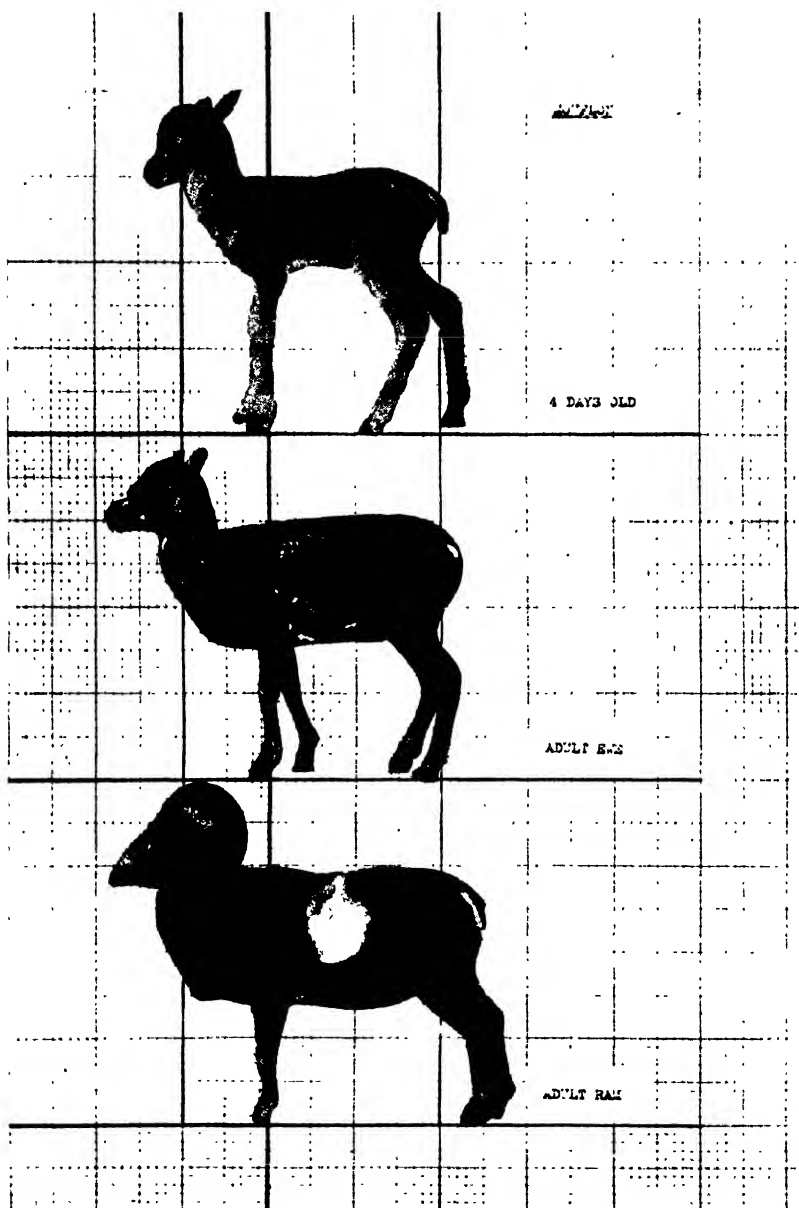


FIG. II.

Showing the change in the proportions of the wild Mouflon sheep with age and sex. Compare with Fig. I, which is made in the same way. The proportions of the ewe are but little in excess of that of the Suffolk lamb at birth. Note also the short length of body in proportion to the height as compared with the Suffolk.

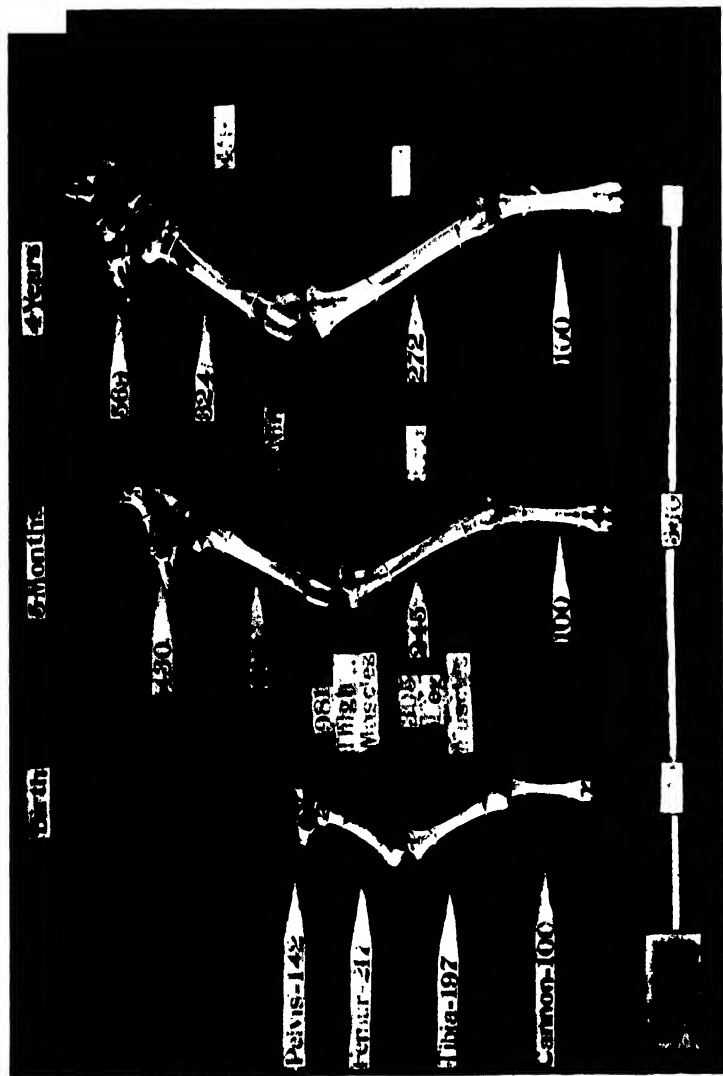


FIG. III.—Showing the changes in the proportions of the muscles and bones in a leg of mutton from a Suffolk ewe at birth, 5 months and in the adult. All weights are shown as a percentage of the weight of the cannon bone in each case; this bone grows least after birth, while the upper bone of the leg—the femur—grows most. The muscles after birth grow to an even greater extent than the bones they surround, so that the proportion of muscle to bone increases with age, while the ratio of fat to bone increases still further.

It is these general proportions which first catch the judge's eye in the show ring, and it is only afterwards that he looks over each animal in detail to discriminate more closely between those which show the best general proportions.

If we study the matter of proportions in detail we find that the animal changes in shape as it grows older. The unobservant person does not fully appreciate this because to one not used to judging live stock the difference in actual size between say a cow and a calf is such that accurate comparison of proportions is difficult. In order to show exactly what these are in the sheep, Fig. 1 has been prepared by taking photographs of animals and enlarging them so that the height of the body at the withers is the same in each case. This figure, then, shows the proportions of the Suffolk sheep at different ages in relation to its height. It will be noticed that the head (offal part) is relatively very large in the foetus and becomes proportionately smaller as the animal grows older; the shanks, too, at birth form a considerable proportion of the animal and these also are relatively reduced when the animal develops to maturity. Another point which is also shown is that the length of the body in proportion to its height increases as the animal grows up; this is important, because it is along the back that the most valuable cuts of the animal lie, and a short animal is liable to be deficient in these cuts. It will be noticed that the male exceeds the female in development in most respects, and it is, therefore, especially important to select good males in breeding and to see that they have every chance of developing their full proportions.

For the sake of comparison Fig. II. is given in order to show in a similar way the changes which take place in the wild, unimproved sheep--the Mouflon. Here a similar series of changes occur from birth to adult life, but development does not proceed so far. The wild adult ewe stops short in development and does not reach a change in proportions much in advance of the improved mutton sheep at birth. The main way in which the live stock improver has developed the meat animal therefore is by pushing the natural change in the proportions of the animal a stage further and forward in point of time. Differences naturally exist in the various improved breeds and since these, as well as the age changes, have been treated in detail in a monograph written on the subject, it is only necessary to say here that they are in the main due to differences in size and early maturity. It is not so much the size or actual weight of an animal, however, which determines whether it is fit for the butcher, as the rate at which it passes through these changes in proportions,

for not only do the outlines of the animal change with age but the proportions of fat, muscle and bone in the carcass also alter under similar conditions of feeding. These have been tested in detail by a large number of weighings, and as an example of this the changes in the leg of mutton may be referred to.

Fig. III. shows the proportions of the leg of mutton (calculated as a percentage of the weight of the cannon bone, the part which grows least after birth) in a Suffolk ewe at birth, at five months and in adult life. It will be seen that after birth the femur grows more than the lower bones—the tibia and cannon—and that the muscles round it enlarge still further; as it is round the femur that the most valuable parts lie the value of the joint is thereby increased. At birth the shank bone and knuckle muscles are relatively large, whereas in the adult they are relatively small, or as the judge of live stock would express it, the thighs are better “let down” in the adult. Just as these differences exist at the various ages, so animals of similar age may vary among themselves, and the judge of live stock measures these changes with his eye, selecting for breeding those which show the best development for their age.

The net result of these changes in the proportions of the leg of mutton is that the proportion of muscle to bone is low at birth, higher at five months and much higher in adult life. Thus just as the outline of the body changes with age so do the proportions of its tissues; this naturally refers to animals on the same level of feeding. From the facts given above it should not be inferred that the age of killing should be raised, for with age meat also increases in toughness, but rather that breeds should be selected to go through these age changes rapidly.

The control of the proportions of the animal by feeding has many possibilities for future experimental work. Some interesting experiments in this direction have already been made by Henseler in pigs and Trowbridge, Moulton and Haigh in cattle. Their results, in connection with our own, show that where the animal is kept short of food the early developing parts and tissues of the body grow at the expense of the more valuable (from a meat point of view) late developing parts. Thus a young animal may be kept at constant weight for a year and yet its bones will grow, but they do so at the expense, first of the fat and then of the muscle of its body, while the outline of such animals (frequently seen in “store” cattle) shows them to be leggy and badly proportioned. The loin, the most valuable cut in the animal, is one of the last to develop and suffers more than any other part through bad nutrition, conse-

quently when judging an animal special attention should be paid to this point ; looked at from behind one should see a well filled, straight line of muscle from the hip to the outer side of the shoulder.

The main object of the breeder of meat animals is to select those which go through the changes in proportion to greatest extent in the shortest time, and it will be readily seen from the above-mentioned experiments that he can only do this to best advantage where they are well fed, so that full growth and development are not hindered. The main way by which meat animals have been improved has been by feeding well and picking out those which respond best both in actual growth and in proportional development.

The difference in body form between beef and milk cattle is well known and taking as examples the Aberdeen Angus and Friesian breeds, there is probably not much difference in actual weight of meat on each, but the beef breed has proportionately small legs, head and neck—all early developing parts—and consequently the calf when it is born is relatively small because these parts make much of their growth before birth ; on the other hand the milk breed has relatively large legs, head and neck, and the calf is relatively large at birth.

The problem before breeders of dual purpose cattle is whether the proportions of the beef animal are incompatible with milking qualities. Does the so-called milk conformation imply merely a lack of selection for beef points and similarity in type to that of wild cattle or cattle kept under bad nutritive conditions, or is it due to the cutting down of beef development so that the udder may have a greater share of the nutrition available ? On the answer to this question depends the solution of the problem as to whether a real dual purpose animal is possible. In the second case it is not possible and the milking animal will always be inferior in beef points. In the first case then why should the judges of dual purpose cattle take any account of milk points in the show ring ? In these days of almost universal milk recording it might be better to class dual purpose animals into three groups on their milk records, giving each a distinctive coloured label before coming into the ring and, with these in full view, for the judge to select on beef points rather than to try to assess the milking qualities indirectly by points which are of doubtful value when the true value is already known. Many animals with bad milk records have fine shoulders, but so long as these are held to be essential in a high milking animal and dual-purpose judges select for them instead of for the milk records they will not

attain their object of an animal with a meat conformation which will yield large quantities of milk.

In conclusion, a few other points which help to determine quality in meat may be mentioned. Of these perhaps the amount and distribution of the fat is the most important ; both for keeping and for roasting purposes there should be an even layer of fat over the whole carcass. This layer gives the smooth rounded outline to a properly finished steer. Some animals put on patchy fat which is wasteful as it has to be pared off, while in others, particularly in wild unimproved animals, there is hardly any fat under the skin and covering the carcass, but instead it is deposited in the abdomen as caul or gut fat where it is of relatively small value ; this is a defect frequently seen when milk breeds are fattened. The fat so deposited adds very little to the value of the carcass (the object of fattening) and represents so much food wasted in feeding the animal. In a bullock which is only " half finished " or in a badly bred animal the fat only covers the ribs, loin and certain parts of the legs, leaving the shanks and parts of the thighs uncovered ; in these cases the joints which are not properly covered drop a grade in quality so that there is a big difference in price between an animal which is properly finished and one which is only half fat, a price quite out of proportion to the actual live weight difference in the animals. With bacon pigs an even, not too thick, layer of fat is also required, but here the fault most frequently found is a breeding one consisting of heavy shoulders, a thick mass of fat being deposited in this region before the loin is even moderately covered. If such an animal is fattened until the loin has the correct thickness of fat then the thickness of fat in the shoulder region is so great that it is valueless for first class bacon.

The firmness of fat is also a factor in quality and this can be largely controlled by feeding. Bulls and sheep fattened on roots in winter (or on a carbohydrate diet) tend to develop a very hard fat, and the finishing process for these should consist of a ration containing a fair proportion of linseed cake which causes the fat to become softer instead of being brittle ; this meets the public taste during the cold months. On the other hand in grass fed stock killed during the summer months the fat tends to become soft, which is objectionable to the public taste at this time of year, so that these are better finished on some concentrate like cotton cake, which tends to make the fat set hard on slaughter. Similarly various foods give a soft fat in bacon, for counteracting which whey or skim milk and barley meal are useful if available ; low grade fish meal is also liable

to give an oily taste to the body fat, and should not be used in the latter stages of fattening.

Unfortunately, with the improvement of breeds not only has fat been added to the carcase and the muscles thickened, but the bone has also become thickened as compared with the wild unimproved types which have very slender bones ; fineness of bone should therefore be carefully selected for.

Another point affecting quality in meat is the texture or grain of the flesh, the meat of small or of young animals generally eating " shorter " or not so stringy and tough as that of large or old animals ; coarseness of flesh is particularly evident in uncastrated males.

The colour of meat also affects its value ; the white flesh of milk fed veal and pork is in great demand, while lack of exercise and shortage of food substances containing iron also help to contribute to the pale colour. Veal which has not been grown quickly or which has been fed on much bulky food is dark in colour for its age, which detracts from its value.

On the other hand the baby beef, which is now being more largely produced than hitherto, often lacks sufficient colour and flavour (for these generally go together) to suit a public accustomed to roast beef of mature age ; the colour can be developed, however, not only by breeding for early maturity but by giving exercise and iron containing foods, as well as by not castrating.

For further details on various points mentioned the reader may be referred to the following papers :—

Woodman Blunt, and Stewart, Nutritive Value of Pasture, Jour. Agricultural Science, Vol. 16, 1926.

Trowbridge, Moulton and Haigh, Effect of limited food on growth of beef animals, Missouri Agr. Exp. Stn., Res. Bul. 28, 1918.

Hammond and Appleton, Growth and Development in the Sheep (in M.S. to be published, possibly by the Jour. of Agri. Sci.).

III.—THE FERTILISERS AND FEEDING STUFFS ACT, 1926.

By Dr. J. A. Voelcker, M.A., F.I.C.

By the passing into law of what will hereafter be known as the "Fertilisers and Feeding Stuffs Act, 1926," the agricultural community may look forward to being shortly in possession of an Act which should constitute a great improvement on the existing one of 1906.

That some radical alterations of that Act were called for had been long recognised, for experience had shown that it was not only unpopular, but, because of certain of the provisions and formalities that had to be complied with, was very difficult to bring into effective working. The consequence was that, while in some parts of the country and where it was energetically taken up and reasonably administered, it decidedly did benefit, in other parts little or no effort was made to bring it into use, and it became, to a large extent, a "dead letter."

The drawbacks to the effective working of the Act have been frequently discussed by agricultural organisations, commercial and analytical interests, etc., and various suggestions for amendment have been put forward at different times; but it was not until well after the War that the Ministry of Agriculture made a decided move.

In 1923, however, the then Minister of Agriculture (Sir Robert A. Sanders) took the matter up and appointed a Departmental Committee, under the Chairmanship of Lord Clinton, "to enquire into the operations of the Fertilisers and Feeding Stuffs Act, 1906, to advise whether any, and if so what, amendments were necessary in order to render the execution of the Act more economical and effective and to report accordingly."

This Committee—of which I happened to be a member—was appointed on July 5th, 1923. It held fifteen meetings, in the course of which the evidence of representatives of the different interests concerned was taken, and on March 27th, 1924, a unanimous report was presented to the then Minister (Mr. Noel Buxton).

Very shortly after commencing their sittings it was clear to the Committee that no mere amendment of the existing Act would suffice, but that there was call for an entirely new Act, and their recommendation took this form. The work of the Departmental

Committee, under the able guidance of its chairman, Lord Clinton—who bestowed unbounded care and attention on the matters under review—was, it may fairly be claimed, very thorough, and the general acceptance with which the report was received on every hand was very gratifying.

Nor is it too much to say that the new Act in its final shape is practically the embodiment of the Report of the Departmental Committee, and, indeed, there are but few of the recommendations of the Report which are not embraced or implied in the new Act.

On December 23rd, 1924, in pursuance of a very definite recommendation of the Departmental Committee, an Advisory Committee was appointed by the then Minister (Mr. E. F. L. Wood) to draw up Schedules to accompany the new Act and to make recommendations as to the articles to which the Act should apply, the particulars to be given in descriptions, invoices and other matters. This Committee reported on July 3rd, 1925.

A Bill was ultimately introduced in the House of Lords by Lord Bledisloe, and, being practically treated as non-contentious, passed quickly through its different stages and was then sent down to the Commons, where its progress was nearly as rapid. Indeed, in neither House was there any real disagreement with the proposed provisions. Not a few amendments, none of them of any serious character nor affecting the principles laid down in the Act, were introduced by the Minister of Agriculture (Mr. Walter Guinness) as the result of consideration, by the Ministry, of various suggestions emanating from conferences of agricultural, trading, and scientific bodies, and these were accepted. Finally, the Bill went back to the House of Lords, and, on their agreeing to the amendments, the Bill was passed on December 13th, 1926, and, receiving the Royal Assent on December 15th, became an Act.

Its operation, however, is delayed until July 1st, 1927, up to which date the old Act will continue in force.

The reception accorded to the Bill, as first drafted, alike from farmers, traders and chemists, warrants one in concluding that the new Act will be a great improvement on its predecessor, and that the removal of elements which tended to make the old Act unpopular and unworkable, and the introduction of other and new provisions will result in the obtaining of legislation which will be both acceptable and beneficial.

My object now is to put out the main respects in which the new Act differs from the old one, and to review briefly the considerations which have led to the adoption of the revised provisions.

1. OBJECTIONS TO THE OLD ACT.

(a) *Time Limit.*

The procedure was complicated and certain formalities had to be complied with which did much to make the Act unworkable. Chief among these were the time limit and the necessity of giving notice to the vendor of the taking of a sample under the Act. A sample could not be taken after the expiration of ten days from the date of the receipt of the delivery or of the invoice (whichever was later), and three days' notice had to be given to the vendor of the intention to sample. This gave very little time, for, anyone who knows the procedure on farms knows that the farmer may not be told at once of the arrival of a consignment, and it will not be until he has seen it, or had some reason to be doubtful about it, that he will decide to have it analysed. He had then to write to the official sampler, the latter to the vendor (giving three days' notice), and it is easily understood that the ten days often expired before a sample could be taken in compliance with all the requirements of the Act.

The time limit was, it may fairly be said, the great stumbling block to the successful working of the Act, and it was only by prompt action and through the energy of the official sampler, that any prosecution could be set on foot.

(b) *Giving Notice to Vendor.*

Further, the very fact of notice having to be given to the vendor proved an obstacle, and made the Act—as it stood—unpopular. The farmer did not want, as a rule, to prosecute the vendor, or to be mixed up with legal proceedings. What he cared about was that he got what he had bargained for, and if a consignment was found to be below quality, he wanted his money back, and not to prosecute the vendor. To have a formal sample taken, accordingly, savoured rather of a challenge to the vendor, or as a reflection on his honesty, and farmers were, speaking generally, very averse to adopting this attitude. Similarly with County Councils, etc., their principal aim was to ensure the satisfactory supply of fertilisers and feeding stuffs to their respective districts, and it was only where bad cases of deliberate fraud were detected that they wished to institute criminal proceedings.

(c) Want of Definition of Articles coming under the Act.

Another difficulty arose from the want of any clear definition as to what the various articles comprised under the Act were and what they should consist of, the names that should be allowed to be used for them and what the use of these names should imply. A further complication was introduced by the employment, in the Act, of—in the case of fertilisers—the term “subjected to any artificial process,” and, in that of feeding stuffs, of the expression “artificially prepared,” these being variably treated, even in courts of law.

It was also felt that the mere statement of the “percentages (if any) of nitrogen, soluble phosphate, insoluble phosphate, and potash” was not sufficient, or sufficiently definite, in the case of fertilisers, while with feeding stuffs one could not say for certain whether oil and albuminoids had to be guaranteed or not, and even the statement of these, when given, was, in many instances, insufficient to indicate what a feeding stuff should be.

(d) Warranty Clause.

The insertion in Section 6 (1) of what has been, for convenience, termed the “warranty clause”—whereby it is provided that a person shall not be convicted of an offence under the Act if he can prove that he bought the article from someone else under the warranty by which he again sold—led to frequent failure to secure convictions in cases where it was evident that wilful misrepresentation had occurred, the person implicated passing on the liability to someone else, and, there being no machinery in the Act for carrying on the enquiry further, the matter came to an end.

(e) Optional Enforcement of Act.

That it was left entirely to the pleasure of County Councils, County Boroughs, etc., whether, and to what extent, they would make use of the Act, was largely responsible for the very varied experience in the working and the consequent results obtained.

In some counties the Act was energetically and systematically administered, in others only spasmodic efforts were made, and in a great many others the Act was, to all intents, a “dead letter,” the County Council contenting itself with appointing, as obliged to, an agricultural analyst whose duties, as often as not, were confined to writing the word “Nil” on his Quarterly Returns!

(f) Veto of Ministry.

It has been maintained in many quarters, that the proviso that the Ministry of Agriculture must give their sanction before a prosecution could be instituted, has acted as a deterrent to action by County Councils and Local Authorities, these bodies feeling that their freedom was restricted as was not the case with the Sale of Food and Drugs or other Acts they were called on to administer.

This question was very carefully considered by the Departmental Committee, and the Traders in particular expressed themselves strongly in favour of the retention of the veto of the Ministry. It was pointed out that the Ministry had information as to particular practices and traders all over the country, which local bodies could not have, and that their intervention might stop proceedings which, for different reasons, might be found to prove futile, and also ensure that prosecutions should only result when there was clear evidence of carelessness, misrepresentation or fraud. Moreover, it had to be admitted that, though to some extent the activities of local bodies had been checked, the veto had been, on the whole, wisely exercised by the Ministry, and it was found to be seldom that a prosecution sanctioned by the Ministry failed to be carried to a successful issue.

The retention of the Veto was, accordingly, retained in the recommendations of the Departmental Committee.

2. IMPROVEMENTS IN THE NEW ACT.

(a) Power of Entry.

A marked improvement has been introduced in the appointment, by the Councils of Counties or County Boroughs, of two classes of officials empowered to take samples, viz., Inspectors and Official Samplers, and in the giving to them the right of entry under certain conditions.

An Inspector is allowed to enter any premises within his district where there is any article prepared for sale or consignment, or where such article, after purchase, is stored; and he may, without previous notice given, take a sample of it for analysis.

Further, where an article is consigned direct from a ship or quay to a purchaser, an Inspector can, without notice, take a sample of it on the quay or during transit to the purchaser.

Consequently, an Inspector has power to take, without any previous notice given, a sample at any quay, factory, mill, or warehouse.

store, shop, or at the farm itself, while he can also sample during transit any article consigned direct, from ship or quay, to a purchaser.

The Official Sampler, on the other hand, while not having the right of entry, is available for the taking of samples at the request of the purchaser, and, similarly, without previous notice being given to the seller.

(b) *Abolition of Notice.*

The abolition of notice of intention to sample will greatly amplify procedure, for, not only will it give a gain of three days or more in the allotted interval for taking samples, but it will save the purchaser from being put in the undesirable position of announcing himself as a potential "prosecutor."

(c) *Extension of Time.*

Simultaneously with the abolition of "notice of sampling," the period for sampling has been extended to 14 days, subsequent to receipt of delivery or invoice, whichever be later. This allows a quite reasonable time for the purchaser to make up his mind whether he wishes a sample analysed, or for an Inspector to obtain what he may want, while not leaving too long a time for a delivery to suffer any material change or render its sampling unfair to the vendor.

(d) *Separation of Civil and Criminal Offences.*

This is the keynote of the new legislation, and on it depends in large measure the future success of the Act. The need of some such distinction as now made between what would be fairly met by a civil remedy, and what might be considered a criminal act, was, from the outset of the sittings of the Departmental Committee, prominent to the minds of the members. And, in the end, though it required considerable thought and deliberation, a happy solution has, I think, been found. At all events the proposal to separate the two classes of offences will have several good results: firstly, it absolves the purchaser from being involved in legal proceedings of a criminal nature against the vendor, and enables him to get his purchase analysed without giving the vendor formal notice, while, if a deficiency of quality or misrepresentation be made to him, he can get his claim met in the ordinary way of civil remedy; secondly, it is satisfactory to the vendor, in that he is no longer open to be charged with a criminal offence, and one due to a delivery which has left his hands and which he cannot, in some cases, satisfactorily identify as being that which he supplied.

As regards the criminal side, the action, proposed enables the County Council or other local authority, by means of this and other provisions which will be notified later, to obtain all the information they require as regards the nature and quality of the fertilisers and feeding stuffs dealt with in any particular neighbourhood, to take samples of them, either at farm or store, without previous notice, and to take action accordingly.

Further, one is able to make a discrimination between what may be an accidental and unintentional failure to comply with the strict terms of a guarantee, and what constitutes a deliberate intention to defraud or to adulterate.

As will be seen later, there is also a grading of the penalties inflicted for offences under the Act, bearing the above distinctions in view.

The fact that this separation of offences into classes has received a ready welcome from all the various interests concerned, constitutes the best promise for the future successful working and popularity of the Act. The change is the one just needed, and removes a grievance which has long been recognised, on all sides, as militating against the employment of the old Act.

(e) *Giving of a Statutory Statement.*

The new Act obliges the giving, by the vendor (in all cases except those of small quantities of 56 lbs. or less) of a statutory statement which shall have effect as a warranty. It is further provided that this statutory statement shall give the name of the article sold, and such particulars as to its nature and quality as are set out, applicable to the particular article, in Schedules which accompany the Act. In these Schedules the name of any article sold, and the definition implied in the use of that name are given, and also the particulars which have to be contained, respecting it, in the statutory statement, *i.e.*, the invoice, and all these have effect as a warranty. Further, any other written statement that a vendor may make beyond those laid down in the Schedules shall have, likewise, effect as a warranty.

It will be seen that—in place of the former uncertainty as to the name that might be applied to an article sold, and what should be understood under the use of such a name, as also what that article should be required to contain—definite statements and requirements are now set out, and there will be little scope for the evasion of responsibilities of description.

(f) Fixing of Marks and Keeping of Register.

It is next provided that a manufacturer or vendor shall, before delivering any parcel to a purchaser, clearly mark it with a mark or marks which shall indicate the particulars required by the Schedules as applying to the article in question. As an alternative, the vendor may keep a register of marks which shall show the particulars which the several marks are intended to indicate. In each case this mark must be added to the statutory statement, that is, to the invoice. Accordingly, it is open to a manufacturer or vendor, in place of giving on each parcel or bag of a delivery the description and particulars that he has to guarantee, to affix a mark to it which shall also be put on the statutory statement, and correspond with the entry in the register he keeps, thus indicating the required particulars and indentifying the delivery with its source of origin.

In the case of articles delivered or consigned to a purchaser from a ship or quay, the keeping of a register by the seller is compulsory. This shall contain the shipping or other marks on the article, the date of delivery or consignment, place of delivery, quantity sold and also the particulars required in the statutory statement (invoice) which he shall give to the purchaser. Samples may be taken by an Inspector under the Act on the quay or on delivery to the purchaser, or during transit to him.

(g) Fixing of Responsibility.

Under the old Act it was a frequent cause of failure to secure a conviction that a vendor who sold something faulty could escape conviction by showing that he had obtained the article from someone else and merely sold it again on the same guarantee. This put an end to all further proceedings, and, consequently, the responsibility got shifted and the real offender was not punished.

Under the new Act such shifting of responsibility will be impossible, as the vendor in such a case is obliged to state where he obtained the article, the mark on it, the guarantee given, etc. In this way it will be possible to trace back a faulty delivery to its actual source, and to get at the real offender.

(h) Advisory Committee.

A very important addition is the appointment of a permanent Advisory Committee, consisting of representatives of the interests concerned, and who shall advise the Minister of Agriculture on the making of Regulations, the Schedules and any alterations required in them from time to time, the methods of analysis to be adopted

and other necessary details. The appointment of such a Committee, with power to suggest any modifications as they may be called for, will be welcome, on all sides, as giving an assurance that all interests will be duly protected.

(i) *Action by County Councils, etc.*

Hitherto, as stated, it has been practically quite optional to County Councils and County Boroughs whether they will put the Act into force in their respective areas or not. In future this will not be so, but it now becomes their duty to enforce the provisions of the Act; and where, in the opinion of the Minister, the Act has been insufficiently used, an Inspector appointed by the Minister may take samples in that area and charge the expenses to the County or County Borough.

3. GOOD POINTS IN THE OLD ACT RETAINED.

The old Act, whatever may be said against it, contained a number of good and useful provisions, and these, it is satisfactory to state, have been retained and in some cases strengthened.

(a) *Limits of Error.*

This has, on the whole, worked extremely well and the principle is retained, though the exact limits to be fixed in the case of each article will be reconsidered by the Advisory Committee.

(b) *Taking of three Samples.*

This provision also has worked well and is retained.

(c) *Additional Statements given upon sale.*

It is provided, as before, that if any vendor makes, in regard to anything he sells, some additional written statement to that required by the Schedule, this shall act as a warranty also.

(d) *Suitability of Feeding-stuff.*

The guarantee that when an article is sold as food it shall be deemed to be suitable as such, is very properly retained.

(e) *Penalties for Tampering with Samples.*

These clauses are retained and considerably strengthened so as to cover all cases of obstruction or refusal to allow a sample to be taken.

(f) Veto of Ministry.

This much debated point has already been discussed, and the veto of the Ministry remains as a preliminary to the institution of criminal proceedings, except where the offence consists merely in the failure to give the prescribed statutory statement, in which case the consent of the Ministry is not required.

(g) Approval, by Ministry, of Appointments.

Appointments of agricultural analysts, inspectors and official samplers are, as above, subject to the approval of the Ministry. This provision has given general satisfaction in the past.

4. FURTHER NEW PROCEDURE AND NEW FEATURES INTRODUCED.

In the foregoing account of improvements in the new Act mention has necessarily been already made of many fresh introductions, *e.g.*, power of entry, abolition of giving of notice, extension of time limit, affixing of marks, separation of civil and criminal liabilities, etc. In addition the following may be given :—

(a) Power to Inspect Registers.

In addition to the power given to an Inspector to enter premises and take samples, it is further provided that he can demand at any time to see and inspect the register kept by a vendor or importer, and penalties are inflicted for refusing to allow an inspector to take a sample or to inspect a register, or for in any way obstructing an inspector in the exercise of his duties.

(b) Small Lots.

It is provided that where small quantities (say 56lbs. or less) are sold, as *e.g.*, over the counter, it shall not be necessary to give a statutory statement (invoice with particulars) for each lot sold, but it shall be sufficient if the parcel from which it is drawn has a label attached to it on which are given the particulars required by the Act as referring to the article in question.

(c) Extension of Application of Schedules.

Under the new Schedules are included a number of articles—both fertilisers and feeding stuffs—for which no provision was made in the old Act. These comprise such materials as lime, chalk, brewers' grains, dried yeast, malt culms, etc.

(d) Presence of Ingredients which must be declared.

Under the third Schedule of the Act are set out a number of materials deemed of worthless nature for feeding purposes; such are husks, chaff, shudes, shells, etc., or, again, things like straw, peat-moss, sawdust, etc.

If these or other worthless materials are contained in a feeding stuff their presence must be declared, and where, as for instance in the case of oats, barley, earthenut, rice meal, etc., the husks, shells, skins, etc., form naturally a part of a material as commonly fed, these must not be present to greater extent than that in which they would naturally occur. This provision is intended to prevent the adulteration of meals such as barley meal, oatmeal, etc., with added husk not incidental to the grain used.

(e) Exclusion of Deleterious Substances.

Poisonous and deleterious substances of all kinds are excluded. The fifth Schedule makes mention of certain materials other than recognised poisonous and deleterious ones which, when present in sufficient proportion, may be reckoned as injurious. Soluble salts, sand, siliceous and insoluble mineral matters are instances in point.

(f) New Procedure.

A considerably altered method of procedure, alike in sampling and in dealing subsequently with cases arising out of the sampling, is necessitated. In this the main consideration has been the separation of civil and criminal liability.

The only samples that can be taken under the Act are taken by the Official Sampler or by the Inspector. A purchaser wishing to have a consignment to him analysed, can apply to the official sampler to take a sample of it, and in the prescribed manner, provided that not more than 14 days have elapsed since it, or the statutory statement (invoice), was received. The sample will then be sent to the agricultural analyst, along with a copy of the statutory statement (invoice), and the purchaser will receive from the agricultural analyst a certificate of the result.

If the result is satisfactory and the delivery is, within the allowed limits, up to guarantee, there is an end to the matter and there is no need to say or do anything further. If, however, the delivery should prove to be not up to guarantee, the purchaser would have his civil remedy against the vendor and could put in his claim for an allowance

or other settlement of the transaction. The vendor, on his part, will be spared the odium of a criminal prosecution, and in nine cases out of ten will probably only be too ready to accept the analysis and meet the purchaser fairly. Thus the purchaser (say, a farmer) will be able to get all he wants—his analysis and his civil remedy in case of failure to comply with the guarantee given. No criminal prosecution can, however, result from a sample taken at a farm, even though taken by an official sampler. It is open, moreover, to an inspector to take a sample wherever he likes and otherwise than in the prescribed manner, and to have it analysed by the agricultural analyst, so long as he does this for his own information. This provision is to give the inspector guidance in the exercise of his duties and to enable him to know what is being sold in a district and where it comes from, so that he can trace it back and then take a formal sample in the prescribed manner, to be followed, if necessary, by criminal proceedings.

The samples upon which criminal proceedings can alone be instituted are those taken by an inspector on the vendor's premises, and where goods are ready packed, labelled and marked for despatch, or where they are exposed for sale, or—in the case of articles consigned direct from a ship or a quay—taken on the quay, or during transit, or on delivery to the purchaser.

This procedure has the advantage that there can be no disputing of identity or responsibility, as might be the case after the goods had left the vendor's premises. Also, inasmuch as a vendor, if he has got the material from someone else, must have on it the mark which will indicate its source of origin, this will enable the goods to be traced back, and resampled, if necessary. A vendor will no longer be able to say—as has been said in defence—that the goods were not his, or that they had altered since he despatched them, or had got mixed up with others.

There is thus every hope that the new procedure, while giving the purchaser all that he wants—his civil remedy—will at the same time stop adulteration at the source and punish it rigidly when detected. It will also put an end to prosecutions for petty and accidental shortages, and confine them to the really serious cases. Such action will be welcomed by all honest manufacturers and traders in fertilisers and feeding stuffs, and as tending to purify the trade.

The samples so taken must be taken in strict compliance with regulations that will be subsequently framed; they will be submitted to the agricultural analyst, and, if found to constitute a breach of

the Act, will be submitted to the Government Chemist, and the sanction of the Ministry must be obtained before a criminal prosecution can be entered upon.

It is further provided that if either purchaser or seller objects to the analysis of the agricultural analyst, he may, on payment of a fee to be fixed, have the remaining part submitted to the Government Chemist.

It is open to the Councils of Counties or County Boroughs to co-operate with one another in regard to the working of the Act, so that it will be possible for a Council in one part of the country, with the consent of one in another part, to follow up any case calling for investigation.

A time limit of three months from the date of taking a sample has been fixed for the institution of criminal proceedings, in certain cases.

5. OFFENCES.

These consist of :—

- (a) failure to mark a parcel as required, or the giving of particulars marked, or indicated by a mark, which particulars are false to the prejudice of the purchaser, or do not include the particulars required.
- (b) in the case of purchase of small quantities—when the particulars stated on the label are false to the prejudice of the purchaser, or if the label does not contain the required particulars.
- (c) failure to keep a register (when so required), or to enter in it the particulars required, or the giving of particulars which are false to the prejudice of the purchaser.
- (d) failure to preserve a register (when one is required) for the statutory time (4 months), or to produce it on demand by an inspector.
- (e) failure to give a statutory statement, or the giving of one not in the prescribed form, or one in which the particulars differ from those indicated by the mark placed on the parcel, or from those entered in the register (where kept), or from those given to the seller.
- (f) failure to add to the statutory statement any mark required by the Act to be added.

- (g) the selling of any feeding stuff containing any ingredient deleterious to cattle and poultry.
- (h) refusal to allow an inspector to take a sample, or obstruction of the inspector in the discharge of his duties.
- (i) tampering with any article, or with any sample taken under the Act.
- (j) improper disclosure by an inspector of information obtained by him in the discharge of his duties.

In the assigning of penalties a distinction is drawn between carelessness or accidental failure to comply with guarantee, and deliberate fraud, tampering or obstruction. For failure to give a statutory statement in the prescribed form, or failure to add such mark as is required, a penalty—not exceeding £5 for a first offence, and £10 for a subsequent one—is imposed. Failure to keep a register (when required), to preserve it the required time, or to produce it for inspection, is met by a fine not exceeding £20. Refusal to allow a sample to be taken by an inspector, or obstructing an inspector in the exercise of his duties, involves a fine not exceeding £20. Lastly, for tampering with an article or with any sample of that article, taken for analysis, the penalty is a fine not exceeding fifty pounds, or imprisonment for a term not exceeding six months. Where no special penalty is provided, the fine for the first offence is not to exceed twenty pounds, or fifty pounds for a subsequent one.

6. SCHEDULES.

Forming part of the Act are the Schedules, five in number.

The First Schedule enumerates the articles comprised under the Act and the particulars regarding each which are to be given in the statutory statement. To these all the provisions of the Act apply.

The Second Schedule comprises articles such as lime, chalk, brewers' grains, etc., to which some only of the provisions apply.

The Third Schedule gives the "worthless ingredients" the presence of which in feeding stuffs must be declared.

The Fourth Schedule sets out the definitions which are implied in the use of particular names under which articles are sold, and

The Fifth Schedule deals with deleterious ingredients in feeding stuffs.

It is provided that it shall be in the power of the Advisory Committee to review these Schedules from time to time, and to make such modifications in them as may be required. The Committee, further, will lay down regulations as to how samples are to be taken, methods of analysis, the limits of variation to be allowed, the form of certificates, etc.

As regards the Schedules as already put out, the following may be noted as new features :—

In fertilisers :

- (a) the statement of phosphoric acid (not phosphates).
- (b) the statement of fineness of grinding in Basic Slag and raw phosphates.
- (c) the inclusion of lime, chalk, limestone, dried blood, and precipitated bone.

In feeding stuffs :

- (d) the statement (in most cases) of fibre.
- (e) the statement of sugar in the case of sugar beet residue, molasses feeds, etc.
- (f) the statement of fibre in wheat offals, but no “grading” of offals.
- (g) no analytical particulars required for such natural feeding stuffs as wheat meal, barley meal, ground oats, bean meal, etc., but an implication that they are pure.

The above constitute, on the whole, distinct advantages, though it is questionable whether the attempt to teach the merchant and farmer to think in terms of phosphoric acid rather than the customary “phosphate” will be taken to kindly. The added requirement of “fineness of grinding” in phosphatic materials, and of fibre in some feeding stuffs will be beneficial, as also the inclusion of lime, etc.

7. RESERVATION.

I regret, however, that sampling during transit from factory or store to the purchaser has not been permitted, except in the case of goods consigned direct from ship or quay. I see no reason for the distinction made, but consider that liberty to sample generally during transit, at railway stations or otherwise, would have greatly strengthened the operation of the Act.

The rest must be left to time and experience in working, and the existence of a standing Advisory Committee will, no doubt, serve to make any desirable alterations and to adjust any points for which the necessity may arise.

8. SUMMARY.

To sum up—the new Act possesses very distinct advantages over its predecessors, and the new legislation introduced will go a long way to remove those difficulties which have hindered the free working of the Act in the past.

The chief features are the extension of the time limit, the abolition of giving notice of sampling, the right of entry, and the separation of civil and criminal action.

The purchaser will now be enabled to get his deliveries analysed without making the vendor, as it were, a suspected or accused person, and he will be put in a fair position to get his remedy by civil means, in case of default, and without being involved in a prosecution of the vendor. The vendor, on his part, will be only called upon to be responsible for what is actually on his premises or in his charge, and he will not have the possibility of a prosecution hanging over his head for something that has gone out of his hands and for which he cannot strictly be said to be longer responsible.

The public, lastly, will have the means of checking misrepresentation and fraud at the point of distribution, and, if necessary, of tracing it back, step by step, to the original source. All depends upon the spirit in which the Act is taken up and on its energetic employment by the local authorities, but, from the way in which the new Act has been received, alike by traders and agricultural interests of every kind, there is every hope that in it will be found an eminently useful and practical means of repressing adulteration, checking misrepresentation, and securing to the agriculturist a good and honest supply of the materials he requires.

IV.—ENGLISH BACON AND THE SUPPLY OF PIGS.

By Viscount Folkestone.

For a country which consumes the quantity of bacon that this country does, the production of bacon pigs takes a remarkably low position in the scale of farm enterprises. The total pig population of England and Wales is much the same as it was 50 years ago, but during that period the human population has considerably

increased and the *per capita* consumption of pig meat has certainly not decreased. Further, the demand now is for a smaller pig in all branches of the trade ; instead of a bacon pig of 12 to 13 score and a pork pig of 8 to 10 score, bacon is wanted from 7 to 9 score and pork down to 60lbs. So it may be seen that during the last 50 years the home production of pigs has kept pace with the demand even less than a comparison between the figures of pig population and those for human population would indicate. The increasing gap between home supply and demand has been filled by unrestricted imports from a number of continental and overseas countries, who now, to all intents and purposes, dominate the market. In 1924, the total supplies of pig meat were estimated at approximately 950,000 tons, of which more than half were imported ; of that which was home produced, it would be safe to say that a larger proportion was fresh pork and sold as such than was the case with the imported amount, and it follows, therefore, that of the bacon consumed in this country probably considerably more than half is imported. With a market such as this at his very door it might be expected that the British farmer would make pig keeping an integral part of his business, especially in view of the fact that of all domestic animals, the pig is by far the most prolific and gives the greatest increase per pound of food consumed. In actual fact pig keeping is looked on decidedly as subsidiary, a branch of farming which is only to be entered on when prices seem favourable and to be given up as soon as the prices are at all adverse. There are exceptions, notably the Eastern Counties and cheese making areas, where pigs are required to dispose of dairy offals, but on the whole British farmers do not consider pigs an essential part of their farm. In the following article the trade in Wiltshire side bacon is particularly considered. "Wiltshire" side does not indicate the place of origin of the bacon, but is a trade term describing the method of turning out the bacon, namely the whole side including the ham and shoulder. It is the most important branch of the bacon business, as by far the greater quantity of home cured, as well as of imported bacon and practically all the consumption, is of this type in the south of England.

The main reason that most farmers give for not regularly keeping pigs is the extremely wide fluctuations in price, periods of very high and profitable prices being followed almost invariably by a period of very low prices, and the result of this attitude is that pigs are bought when prices are improving, or have improved, and as prices decline all stock is sold out ; they buy on a rising market and sell on a falling one, and in consequence they are not too well satisfied

with the financial returns. They do not seem to realise that they are really to blame for this state of affairs, and though there are normal and seasonal fluctuations of a minor and major character, such as affect every productive business, their attitude and action exaggerate these fluctuations. The winter pork competition affects the supply of bacon pigs, usually causing a rise in price in those months; a high price for feeding stuffs will also affect the market in that fewer pigs will be kept, and ultimately the price paid for bacon pigs will react to this shortage. These are normal fluctuations, but owing to the attitude of farmers they are accentuated beyond all reason, because as soon as prices tend upwards every one wants pigs, the price of store pigs soars upwards, breeders increase their breeding stock and, the pig being a prolific animal, very soon there is a supply greater than the demand. When prices begin to fall breeders and feeders get rid of their stock as quickly as possible, and prices fall far more rapidly and much further than is necessary. It is difficult to understand why this attitude is taken up as regards pigs, when the same is not the case with other stock. There are normal fluctuations in the sheep trade and the fat cattle trade, but it is not usual to find farmers who keep sheep or cattle giving them up completely because prices are not so good as they were. No doubt, over a long period of depression in either case, numbers would tend to diminish, but there is much more reluctance to give up horned stock and sheep, as they are considered essential to good farming, whereas pigs are not so considered. Farmers should realise that if they persisted with pigs instead of giving them up in times of low prices, they would ultimately reap the benefit in stability of the market and consequently a higher average price.

It is not only in numbers and stability of output that the British farmer fails. The quality and type of pig produced leaves a great deal to be desired. Too much emphasis cannot be laid on the fact that to get good prices, or even keep their market, producers must produce an article meeting the requirements of the purchaser. The public demand nowadays is for uniformity; they want the same class of bacon every time they purchase, and the retailers recognise and foster this as it simplifies their work when they can always get a uniform article on which they can rely. Our foreign competitors have realised this, taken steps to achieve it and consequently captured the main part of our bacon trade. Such uniformity must begin with the pig which is produced, and as there are a very large number of breeds of pigs in this country, most of which claim to be of good bacon type and all of which have different

characteristics, it follows that the variety of type that comes into our bacon factories makes it very difficult for them to fulfil the requirements of the purchasing public. Their demand is for a certain type of bacon and they insist on having that type. A brief description of this type would not, therefore, be out of place, as very large numbers of pig producers even now do not know what is wanted. There should not be more than $1\frac{1}{2}$ to 2 inches of fat on the back and the fat should be evenly disposed without an increased thickness over the shoulder. The dead-weight of the carcase, including fats, kidneys, tongue and head, should be between 140 and 180 lbs., and it should be of good length and thickness in the belly, light in the shoulder and head, and plump in the ham. The object is to obtain a side of bacon which has the largest proportion of saleable cuts, hence the liking for a pig which is light in the fore-end, a part which is not so valuable for bacon purposes. Equally, excessively fat pigs are undesirable because the public will not buy fat, and though there may be a certain demand for fatter and heavier pigs in the North and Midlands, they sell at a lower price and the demand is steadily decreasing. These characteristics largely are not discernable by eye or touch in the live pigs. But there are certain external characteristics which indicate the internal quality of the pig. He should be well up on his toes, as this indicates that he is fit and well muscled, with the result that there is a good proportion of lean meat. The back should be slightly arched and the tail set well up without any depression at its root. A pig with a flat back usually means excessive fat, as also does the depression at the root of the tail, which when present, means a roll of fat on either side. Another point to be observed is a tense appearance of the ham, which again means that it is firm without excessive fat, and when cured will remain plump and well-filled without wrinkles. That curers are particular in their requirements and are always complaining of the type of pig sent to them, is a common complaint of pig producers. But it must be remembered that any curer is in the hands of the purchaser and that he cannot successfully force on the market an article which is not required. This is peculiarly so with bacon, as our foreign competitors have, with considerable success, organised the production of a very good and uniform type of side, so that, if the retailer cannot obtain from English curers what his customers insist on having, he can always get it from other sources. Indeed, big purchasers find it almost impossible to get their regular supplies from English sources as no curer can guarantee supplies. Unless the British pig producers are prepared to assist curers by supplying

the right type of pig, they may find the demand for English bacon decrease steadily, a possibility which will react more heavily on producers than any one else.

A study of the records of a particular bacon factory reveals the directions in which producers mainly err as regards type. The results over some weeks, during which careful records were kept with a view to analysis of such results are interesting. The carcasses were classed under five headings, namely "Sixes," which were pigs under 7 score dead-weight, and as such not suitable for good class trade; Lean Sizeable, which were good bacon pigs, Lean Stout and Stout Sizeable, which were pigs of the right size and weight, but too fat, and Stout which were pigs which were excessively stout or too heavy. It must be pointed out that these records were taken before curing and take no cognizance of the quality of the meat after curing, a factor which is influenced very much by the feeding and which will be dealt with later. The figures are shown in the following table :—

<i>Sizes.</i>	<i>Lean Sizeable.</i>	<i>Lean Stout.</i>	<i>Stout Sizeable.</i>	<i>Stout.</i>
451	1062	743	350	154

From this it may be seen that out of 2,760 pigs, about 39% only were suitable as regards weight and type for the requirements of the market. It is notable that 451, or rather over 16%, are classed as being under the required weight, a fault which is easily remedied and one which shows how very little trouble the average farmer takes in his production of pigs, and how his carelessness leads to considerable loss to himself, as such pigs are paid for at a lower price. The chief fault, however, as shown by these figures, is that a very large number of pigs are too fat to be suitable. The three grades which indicate in varying degrees excessive fatness amount to 1247, or rather over 45% of the total. Fatness in pigs is largely a question of type, and probably these figures are a fair indication of the proportion of unsuitable pigs which are kept on for bacon and which create one of the bigger problems in English bacon factories to-day. Under the existing system of payment, this large number of pigs is paid for at the same rate as those which are suited to better class bacon, even though they do not realise anything like the same price for the curer.

Included in the above figures are a number of pigs marked as "Seedy" and these merit a rather more extended reference, partly because of the controversy on this subject, and partly because of

the imperfect understanding and the great, though avoidable, loss incurred by factories because of it. "Seedy Cut" is caused by the pigmentation of the hairs round the teats in both sexes and is common to all pigs. In white pigs it does not matter because it is not visible, but in black pigs or pigs with black hair this pigmentation penetrates into the flesh of the belly or streak and appears as a black discolouration. This, while in no way actually spoiling the meat for food purposes, spoils the appearance of the side, as purchasers will not buy bacon which appears to be dirty, as this does. Consequently, the portion so affected has to be cut away, in itself a certain amount of loss: but there is considerable further loss as the side so mutilated is reduced in value by at least 10/- per cwt., as its appearance is spoilt. Detailed figures do not cover the whole of the period during which the previous figures were taken but they may be considered a fair criterion of the usual supply. During this period 1599 pigs were killed, of which 109 or nearly 7% were "seedy," necessitating cutting away 602 lbs. of meat so affected. The value of this was put at 1/- per lb. and amounted to £30 2s., and the estimated loss on the decreased value of the bacon, put at 10/- per pig, amounted to £54 10s., a total of £84 12s. This, when averaged over the number of pigs killed, works out at slightly over 1/- per pig; that is to say that every pig that came into the factory during that period had to bear what amounted to an unnecessary overhead charge of 1/-, because pig producers will persist in believing that black haired pigs are suitable for bacon. Thus, it may be seen that the insistence of curers on the production of white pigs is not merely a fad but is based on solid financial reasons. Emphasis is laid on white haired pigs because a cross between a white boar and any black sow usually produces such a pig, and some such crosses, notably the Large White x Large Black make some of the best bacon pigs bred. Importing countries never suffer from this disability as they have nothing other than white pigs.

Figures have been given to show the indifference in type of the pig produced for bacon; unfortunately figures are not available to show the loss incurred through indifferent feeding. This fault is not always apparent until after curing, when it is found that the resultant bacon is soft and flabby, particularly as regards the fat, and it may be tainted and discoloured as well. Both these faults may be said to be traceable to the same cause, namely the feeding of excessive oil. The pig is a peculiar animal in that, if too much fatty substance is included in the ration, the excess is secreted practically unaltered in the body fat, causing

it to become soft and oily, and should the substance fed have an unpleasant taste, that taste remains. The pig also has the capacity of converting the starch in his ration into fat, so that actually very little fat or oil is required ; in fact in most rations there is sufficient starch to supply all the needs for fat and in consequence it is advisable to feed foods with an absolute minimum of fat or oil to prevent giving more than the animal can deal with properly. Fish meal is the feeding stuff in this connection which has aroused a great deal of controversy. It was described at a meeting of the pork section of the Federation of Meat Traders as "this damnably obnoxious feeding stuff," and it is generally condemned by all those who have to purchase pigs for disposal either as bacon or pork. It is not that fish meal, if properly fed, is not an excellent feeding stuff, but there seems to be an inability among feeders to select the best white fish meal without taint and feed it in proper quantities. If feeders would take more care there would not be this very strong prejudice, but the situation being what it is, those who have to bear the loss naturally have a very strong objection to it. As a matter of fact from the feeders point of view, bone and meat meal will take the place of fish meal at a less cost and without the danger of taint. Another feeding stuff which is unsound to feed to fatting pigs in any quantity, is maize. Too much maize, in addition to making the fat soft and oily, makes it very yellow in colour, and such pigs are very difficult of disposal.

Pig producers frequently say that they do not know what is required by curers or how to obtain those requirements when they do know. There is absolute agreement among all those who deal in pigs that what is required is a white pig, and the majority, especially bacon curers, want the progeny of a Large White boar. The crosses most generally favoured are Large White x Large Black, Large White x Middle White, and Large White x Berkshire ; in no event is a black boar desirable as sire. Curers are unable to go further than that as, owing to the multiplicity of breeds, if they definitely stipulated any breed or cross to those who supplied them, they might find that their supplies would considerably diminish and, as at the present day bacon factories are only working at 60% or less of their capacity, they dare not go for quality at the expense of quantity, as overhead charges would kill their business. But it may be said of the more usual crosses that the Large White x Middle White and the Large White x Berkshire are the best, and though many pigs from the Large White x Large Black cross make excellent baconers, certain strains of the Large Black breed produce rather thin bellies. Other possible crosses are too numerous to mention,

but most breeds produce quite a fair bacon pig in conjunction with a Large White Boar, though those mentioned are probably the best.

But with such a number of breeds of pigs in the country it is only to be expected that breeders and feeders are somewhat bewildered as to what is best for their purpose. Breed societies are to blame for this bewilderment on account of the policy they pursue. Doubtless it is their duty to do the best they can for their members, but their method seems to emphasise what are called breed characteristics in order to get what is called a fixed type. To achieve this a scale of breed points is drawn up which is meant to be the standard for show yard purposes, the show yard being the only means available for comparing the quality of pure bred pigs. This standard lays down certain definite features as regards marking, shape, length of ears, etc., certain other points such as fineness of hair, position of tail, etc., not quite so clearly defined, and finally certain vague generalities on the question of length and depth of body, fullness of ham, fineness of shoulder, and in fact all the really important points. These latter points, practically speaking, are common in the description in all breeds of pigs. The result in the show yard is that any judge, however good, is bound to take note of the minor points of colouring, etc., as they are obvious to everyone. Likewise less definite points are nearly as easily noticed if wrong, and though the merit of some of them may be based on empiric knowledge, most of them have not had to undergo the practical test of slaughter for curing as bacon. The last points to be considered are those which might be described as all the points of a superior pig, and these are the points which really matter. No doubt some of the breed points which seem to the commercial man to be of no importance have been proved in the past to be attributes of a superior pig; equally it is desirable to retain breed characteristics. But the ultimate object of any pig breeding is to produce a suitable butcher's beast, and all pedigree breeding should rest on the value of the animal to the butcher, or on its potential capacity as a breeder of saleable carcasses, and this point seems to be somewhat lost sight of in show yard judging. It is not easy to judge the slaughter merit of pigs while they are alive, and therefore it is desirable to introduce into our Agricultural Shows some means of testing the commercial value of pigs shown, or that of their progeny. Meantime, the average pig breeder who does not breed pedigree stock, goes to an Agricultural Show and comes away not having learnt at all what type of pig is required, or which breed is best suited to the production of bacon, though he

may have learnt the correct shape of an ear. But then bacon is not made from a pig's ear.

In the view of the Meat Traders' Federation, there is only one pig required to-day both for pork and bacon, the difference is one of size. They say that the trade strongly objects to black pigs, but that the produce of a white boar is suitable for all classes of the pig trade. Any breed which does not conform to that type, or which is not useful in producing that type by cross-breeding, is doing a dis-service to agriculture in particular and the country as a whole, as every unsuitable pig that comes on the market makes it that much the more difficult for English curers to compete with foreign importers. The outstanding country as regards successful pig keeping for bacon is Denmark and there they have only two breeds, the large White Yorkshire and their own native Landrace, and the requisite commercial pig is produced by crossing the two, so that in that country there is only one way of breeding bacon pigs, namely by this particular cross. In this country with its number of breeds, it is not possible to confine breeders to any particular cross, but all curers are agreed that the use of a Large White boar improves any breed from the bacon point of view, and it is a fact that bacon factories which encourage the right type by offering prizes at agricultural shows very often specify that the pigs entitled to prizes must be the produce of Large White boars. Their reason for this is that they have found by experience that the Large White is the only pig that can be relied on to produce the correct type. Propaganda has been carried out on this point now for several years, and recently the Ministry of Agriculture have assisted considerably through their system of premium boars, and this propaganda has done a certain amount of good. But the only really effective argument which is understood by feeders and the only one which gives any hope of rapid improvement in the type of pig, is an increased price for the right pig. Actually, countries which have established the right type have gone on exactly opposite lines, namely a reduced price to inferior pigs. But neither of these methods are practicable in this country at present, because of the low proportion of suitable pigs. Very few factories can offer, at any rate publicly, a higher price or bonus for high quality pigs, because senders are very prone to judge their pigs before they send them in, and they always judge them to be better than they are, with the result that they are dis-satisfied with the factory returns, and the reputation of the factory suffers with consequent difficulty in getting pigs at all. Equally if they paid a lower price for inferior stuff, the result would be even worse, and no factory can afford to

get less numbers of pigs than they are getting now, even if the quality is inferior, as overhead charges become excessive when production is very much below the capacity of the factory.

English bacon factories have now further difficulties to contend with besides those already mentioned. Owing to the discovery of the lesions of Foot and Mouth disease in imported pork carcasses, the Government have imposed an Embargo on the importation of all fresh meat, which includes a considerable quantity of pork. No doubt the action of the Government was wise, as it is essential to safeguard our livestock industry, and all farmers will be in agreement with their policy. But unless pig producers realise the position and take steps to combat it, this embargo is likely ultimately to have serious results on the bacon industry and all pig breeding. As has been said before, one of the greatest difficulties that bacon curers have had to face has been the competition of the pork market during the winter months, which takes prospective bacon pigs off the market. Prior to the embargo, fresh pork to the value of £4,000,000 per annum was imported. Now this quantity will have to be found by the home market, and not only has this created a considerable temporary shortage of pigs with consequent embarrassment to bacon factories, but it will also mean that the pork competition will be an even bigger factor in the future than it has been in the past. At the same time foreign pigs which have been coming in as pork, are now being cured as bacon and increase the competition in the bacon market, making it still more difficult for curers to pay a price which is at once economic and good enough to induce feeders to keep their pigs on for bacon rather than sell them as pork. For the unfortunate position of the bacon industry has always been that the price paid for pigs has had no relation to the price paid for bacon, because bacon prices are practically ruled by the imported article, whereas pig prices are ruled by the numbers available in this country. To-day the bacon industry is more or less in the same position as it always has been, without any protection from the competition of imports, whereas the pork industry, owing to the embargo, is entirely restricted to this country and has no competition at all. Unless those interested in pigs take vigorous action it will be found that the bacon industry will rapidly become a thing of the past and an important outlet for our pigs will disappear, leaving only the pork outlet which, being largely seasonal, will be very unsatisfactory, and will intensify the fluctuations in price which are already such a serious difficulty. It would be disastrous if the bacon curing business were to disappear, and it would react on the whole of our agriculture, by adding yet one more branch of farming which is not economic.

It is difficult to foretell as yet all the repercussions of this embargo, but the above suggestions seem very probably to be the results unless concerted efforts are made to preserve and improve the industry. Such improvements must come first of all from the pig keepers and feeders, as they supply the raw material for the bacon factories, and unless that raw material is forthcoming and of the right sort, curers are powerless. Of pig keepers the breeder, and more particularly the pedigree breeder, is first in importance, because it is necessary to have the right type of pig to feed before considering any other question. Pedigree pig breeders seem rather to have lost sight of the fact that the success of any type of stock depends ultimately on their commercial value, and that if this is not kept in view such a breed cannot remain in demand. Practically every pedigree breeder aims to produce pigs up to show yard standard, without considering what that standard represents. Except in utility classes, such as those for bacon pigs, show pigs are judged entirely on their outward conformation, without regard for their past record for breeding and without any attempt to obtain a record of their progeny either as bacon or pork. Show yard successes with sheep or cattle mean something. Dairy cattle have milking trials and also regulations with regard to calving within a certain period; this latter point is covered in the beef cattle classes, and they, in common with sheep, are easily judged from the utility point of view by eye. Bulls also can be certified to have served a certain number of cows. But with pigs more than that is wanted. It is very desirable to know the size of the litter, a point which does not arise with other farm stock as they usually only have one or two at a birth; and also the quality of the litter from the butcher's point of view, because mature breeding stock are always very much larger than the animal required for slaughter purposes and therefore it is difficult to judge them as possible parents of utility stock. To judge the value of the progeny successfully it is essential that some should be slaughtered at commercial size as many of the points which are detrimental to a pig are not discoverable until after butchering, points such as proportion of lean to fat, seedy cut and thickness of streak or belly, all extremely important in a bacon pig. The lead in this must come from the breed societies, and if they obtain and publish these records the commercial pig breeder will have some guidance as to what type of pig is required and which breeds are best suited to his purpose. It might even be feasible for breed societies to refuse for registration the progeny of any animal which does not come up to a prescribed standard of prolificacy and which are not proved to

be suitable utility animals, more or less on the lines of Danish testing stations, where a certain number from a litter are fed, killed and subsequently judged. If breed societies take the lead on the lines suggested the commercial pig breeder and feeder would soon fall into line, because he would find that by keeping a proved good pig he would get better results. Thus the general standard would be raised, and the quality of pigs going into bacon factories would so improve that curers would be enabled to offer a better price, as they would not have so much bacon to get rid of as best they can on account of its unsuitability. It is noteworthy that one breed society has already started a system of recording the performance of pigs, and it is to be hoped that other societies will follow this lead and develop it to its full value.

But there is still a very important factor which must be kept in mind, the steadiness of supply. To enable curers to pay a better price they must have some assurance that there is going to be a steady flow of pigs into their factory all the year round. Under existing conditions curers have to look forward to periods of extreme scarcity, periods when they will have to pay a high price for pigs, regardless of the price they obtain for bacon, if they want to keep their factories going. Somewhat naturally in times of glut they depress the price as much as possible so as to make sufficient profit to carry them over the period of scarcity which they know by experience is almost sure to follow. One would have thought that farmers generally would have preferred to keep a steady stock of pigs all the time instead of the extremely prevalent practice of buying on a rising market and selling on a falling one, a form of business in any walk of life which is considered inadvisable. If only they would keep pigs consistently it would be found over a period of time, even under the existing unsatisfactory state of the market, that they would average a fair profit and even a good one. There would of course be times when no profit was being made, but there would also be times when big profits would be made, and if a man has a stock of pigs at the beginning of a boom period he will certainly make more money than the one who has to purchase his stock on a rising market. If many farmers would pursue this course it would tend to stabilise the pig prices very much, and though there would not be the periods of very high prices, there equally would not be periods when a loss is incurred, a very potent consideration in the case of those who have not a great deal of capital.

To summarise the conclusions reached, it must be borne in mind continually that success in any commercial venture depends on

producing an article that is required. At the present day the majority of pigs in this country are not of the type required, and until that is remedied, there is little hope of the pig industry competing with unrestricted imports. Improvement in type must start with the breeder and of these the pedigree breeder is the most important, and until our breed societies set their house in order and aim more at the commercial value of a pig than purely breed points, there is not much chance for the man who breeds purely for market purposes to do a great deal to improve his production. Once such improvement in pedigree stock takes place the general standard is sure to rise and the bacon industry will have a much needed chance to establish its position.

V.—SOME EFFECTS OF PHOSPHATIC MANURES AND GROUND LIME ON ACID PASTURES.

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INTRODUCTION.

In previous volumes of this Journal details are given of a series of experiments initiated by the Society in connection with the manuring* and liming of acid pastures in the West of England. Progress reports have appeared annually in this Journal since the laying down of the experimental plots in 1922-23 and these reports indicate clearly the marked improvement that may be made in such pastures by phosphatic manuring. They also show, with one exception, that the application of lime does not produce any apparent beneficial result during the first two or three seasons. In all, plots were laid down at eleven centres.

A comprehensive set of experiments such as this afforded an opportunity of carrying out some detailed work on one or two points which appeared to be of importance to the problem and upon which very little data are available. These points have been studied in detail at four of the centres which were especially suited to the purpose.

Tables Nos. 1 and 2 are given to show the general soil type at each centre where detailed work was carried out.

* *Vide* Vol. XVIII., p. 99, of the Journal.

TABLE NO.1. MECHANICAL ANALYSES OF THE SOIL.
Samples—Air dried for analysis.

Centres.	No. 1.	No. 2.	No. 3.	No. 4.
District.	Backwell	Shepton Mallett	Frampton Cottrell	Pewsey
County.	Somerset.	Somerset.	Gloucester.	Wiltshire.
Geological Formation	Coal Measures.	Old Red Sandstone.	Coal Measures.	Upper Greensand.
<i>Surface Soils.</i>				
Stones in Sample.	Nil.	11.0	0.5	Nil.
Fine Gravel.	Nil.	1.26	0.15	0.51
Coarse Sand.	2.67	3.01	6.88	3.87
Fine Sand.	20.50	30.13	29.66	74.32
Silt.	13.65	18.10	18.97	6.80
Fine Silt.	22.60	13.77	21.40	5.33
Clay.	21.38	12.53	9.68	0.55
<i>Subsoils.</i>				
Stones in Sample.	Nil.		0.4	Nil.
Fine Gravel.	Nil.	Rock 9in. below	0.41	0.77
Coarse Sand.	2.60	Surface.	9.42	3.91
Fine Sand	22.64	No subsoil obtainable.	30.48	75.78
Silt.	19.10		18.20	6.60
Fine Silt.	21.55		21.18	6.02
Clay.	24.60		12.25	1.03

TABLE NO. 2. CHEMICAL ANALYSES OF THE SOILS.

Centres.	No. 1.	No. 2.	No. 3.	No. 4.
<i>Surface Soils.</i>	%	%	%	%
Moisture.	5.56	10.15	2.19	2.39
Loss on Ignition.	11.87	9.24	10.70	4.20
Potash Total (K ₂ O).	—	—	—	—
* „ Available (K ₂ O).	0.0102	0.0068	0.0148	0.0134
Phosphoric Acid Total (P ₂ O ₅)	—	—	—	—
* „ „ Available („)	0.0088	0.0097	0.0066	0.0081
Carbonate of Lime (CaCO ₃)	Nil.	Nil.	Nil.	Nil.
† Lime Requirement.	0.48	0.61	0.38	0.32
<i>Subsoils.</i>	%	%	%	%
Moisture.	3.90		1.52	1.13
Loss on Ignition.	5.43	Rock 9in. below	4.02	2.48
Potash Total (K ₂ O).	—	surface	—	—
„ Available (K ₂ O).	0.0073	No sub-soil	0.0086	0.0115
Phosphoric Acid Total (P ₂ O ₅)	—	obtainable	—	—
* „ „ Available („)	0.0047		0.0026	0.0073
Carbonate of Lime (CaCO ₃).	Nil.		Nil.	Nil.
† Lime Requirement.	0.23		0.23	0.13

Denotes Soluble in 1% Citric Acid Solution.
By the Hutchinson MacLennan Method.

In such cases where phosphatic manures bring about a great improvement in acid pastures it seems just to assume that certain changes are brought about in the soil or the herbage or both. Under the heading of Soil the two important questions to be answered appear to be :—

- (1) Do these manures affect the acidity of the soil (*i.e.*, its reaction) ?
- (2) Do they bring about changes in the composition of the soil solution ?

Under “ Herbage ” the two questions of outstanding importance are :—

- (1) What effects are produced in the composition of the herbage ?
- (2) Is the chemical composition of the grasses affected ?

It is the object of the present work to attempt to elucidate certain points relating to these.

EXPERIMENTAL.

The work can be conveniently divided into two main sections (1) Soil. (2) Herbage.

Under No. 1 (Soil), the effects of the manures on (*a*) the Acidity of the soil and (*b*) the composition of the soil extract are considered and under No. 2 (Herbage), the effects of the manures on (*a*) the general appearance of the pastures (*b*) the botanical composition of the pastures and (*c*) the chemical composition of the grasses are noted. It is proposed to deal with each of these subsections in order.

1 (*a*) *Acidity*.*

An attempt has been made to trace the degree of the acidity over a series of seasons. In order to secure uniformity of conditions in the field and uniformity in sampling, soil samples were taken just before the commencement of the growing season in the spring—*i.e.*, middle of March. This is a time just at the end of a period of comparative rest of the plants and confusing results are not likely to be obtained as a result of active growth. Soil samples were taken by means of a cylindrical auger to a depth of 3 ins. Obviously such a depth is bound to be an arbitrary one, but at the same time it was felt that in the case of permanent pastures the active root

range of the grasses and the more shallow rooted clovers would come within this limit, and the information obtained by the analyses of such samples would give a better representation of the soil conditions in the close proximity of the roots than would be obtained from the usual 9in. sample.

Each plot was sampled in six places in order to secure a representative sample and the cores from the auger were brought to the laboratory in small canvas bags. On arrival at the laboratory each sample was carefully spread out on a piece of brown paper and allowed to dry under ordinary room conditions in a room used solely for the purpose of storing soils. When air dried, the samples were broken down with a wooden pestle and sieved through a 3mm. hole sieve in order to separate out the stones. The resulting "air dried fine earth" was used for all the determinations except where otherwise stated. Acidity was determined by the following four methods :—

- I. Litmus test.
- II. Comber test.
- III. Truog test.
- IV. Lime Requirement.

The data obtained from the four acidity tests above show that lime is capable of reducing the acidity but it is difficult to trace any correlation between the reduction in the degree of acidity as shown by the various tests. This result has been obtained by many other workers.

Acidity tests Nos. I, II, and III, are only qualitative and there is no close agreement in the results obtained from them. The lime requirement determination, although empirical, has been found in other areas to give comparable results, at any rate within any given soil type. For this reason a list of the lime requirement figures obtained is appended.

IV. *Lime Requirement.*

The lime requirement determination as described by Hutchinson and MacLennan (4) was put forward as a means whereby some quantitative figure might be obtained for the actual requirement for lime of any soil in order to bring that soil to the neutral point. It is probably one of the most useful soil determinations that exists at the present time, although the figure obtained for any one soil is by itself of little practical value. It is only when a large number of these determinations have been made for each soil type that the figures obtained have practical significance.

TABLE NO. 3. LIME REQUIREMENT.
As CaCO_3 %.

Centre.	Date of Sampling. *	PLOTS.								
		Slag	Slag + Lime.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime.	Unmanured No. 1.	Unmanured No. 2.
No. 1.	Spring 1924	0.68	—	0.61	—	0.61	—	—	0.50	0.61
	" 1925	0.74	0.52	0.60	0.35	0.86	0.70	0.48	0.51	0.74
No. 2.	" 1924	0.73	—	0.80	—	0.77	—	—	0.75	0.63
	" 1925	0.74	0.30	0.70	0.32	0.68	0.34	0.38	0.78	—
No. 3.	" 1924	0.49	—	0.56	—	0.53	—	—	0.51	0.55
	" 1925	0.55	0.47	0.67	0.53	0.61	0.45	0.35	0.51	0.50
No. 4.	" 1924	0.37	—	0.32	—	0.38	—	—	0.32	0.35
	" 1925	0.38	0.36	0.42	0.20	0.46	0.34	0.20	0.40	—

* Note.—All manures applied Spring, 1924, after first sampling.

Table No. 3 shows clearly, with one exception, viz., Mineral Phosphate and Lime plot at Centre No. 1, that in the course of a year a dressing of two tons of lime per acre is capable of considerably reducing the lime requirement. This is in agreement with the results obtained by Hanley (3) and other workers. In the cases of the mineral phosphate and lime plot at Centre No. 1, the lime requirement before the application of lime was 0.61%, but on the unlimed section of the same plot the lime requirement had increased to 0.86% during 12 months. The lime requirement on the limed section had increased from 0.61% to 0.71%—i.e., not to such a great extent as where no lime had been applied. It will be seen from the last column of Table No. 3 that the unmanured control plot No. 2, which, in the field is next to the mineral phosphate plot, had considerably increased in acidity during the year (0.61% to 0.74%). It must be pointed out that this side of the experimental area lies rather wet and this is particularly the case at the top end of the plots. Under such conditions it is highly probable that the lime requirement figure may be a very variable one, depending to a large extent on the condition of the soil at the time of sampling.

TABLE NO. 4. EFFECT OF DRESSINGS OF TWO TONS QUICKLIME PER ACRE ON THE LIME REQUIREMENT.

Centre.	Dressing in addition to Lime.	Initial Lime Requirement %	Lime Requirement after one year's treatment	% Reduction of Lime Requirement.
No. 1.	Phosphate*	0.63	0.32	17.5
	Control	0.56	0.48	14.5
No. 2.	Phosphate	0.77	0.32	58.5
	Control	0.69	0.38	47.0
No. 3.	Phosphate	0.53	0.48	9.0
	Control	0.53	0.35	34.0
No. 4.	Phosphate	0.36	0.30	8.5
	Control	0.34	0.20	41.0

* Average lime requirement of phosphate plots.

These figures clearly show the great variation in the "determinable effectiveness" of the lime after one year's contact with the soil—varying from 9.0% to 58.5% of the initial lime requirement. It is interesting to note that at Centres Nos. 3 and 4, where the percentage reduction of the lime requirement was least, there was the least response to the dressings of phosphatic manures and lime.

Two other important points are brought out by the lime requirement figures :—

- (1) There are no definite indications that superphosphate consistently increases the acidity of the soil.
- (2) The "free lime" in basic slag does not appear to cause an appreciable decrease in the acidity—it may possibly be a coincidence, but consideration of the data obtained from the slag plots at the various centres shows that in every case the acidity as measured by the lime requirement had increased after the slag had been on for a year.

Tables Nos. 5 and 6 are appended to illustrate these two points.

TABLE NO. 5. EFFECT OF SUPERPHOSPHATE ON LIME REQUIREMENT.**SUPERPHOSPHATE ALONE PLOTS.**

	EXPERIMENTAL CENTRES.			
	No. 1.	No. 2.	No. 3.	No. 4.
	Initial Lime Reqt. %	Initial Lime Reqt. %	Initial Lime Reqt. %	Initial Lime Reqt. %
Lime Reqt. after 1 year.	0.61	0.80	0.56	0.32
	0.60	0.70	0.67	0.42

TABLE NO. 6. EFFECT OF BASIC SLAG ON LIME REQUIREMENT.

BASIC SLAG ALONE PLOTS.

	EXPERIMENTAL CENTRES.			
	No. 1.	No. 2.	No. 3.	No. 4.
Initial Lime Reqt. %.	0.68	0.73	0.49	0.37
Lime Reqt. after 1 year.	0.74	0.74	0.55	0.38

The acidity on the unmanured control plots has remained fairly constant (except in the case of one control at No. 1 Centre). Where these controls had been limed a consistent reduction in the lime requirement figure is obtained, but as it will be shown later, after a period of over two years very little result can be seen from field observations of the effect of the lime in the improvement of the herbage.

1 (b). *The Composition of the Soil Extract.*

The almost immediate response made by many acid pastures to the application of suitable dressings of such artificial manures as basic slag, superphosphate and lime leads one to the conclusion that a rapid change must be brought about by these manures in the readily soluble material near the surface and with which the shallow rooted grasses and clovers are in contact. This change may be reflected in the composition of the soil solution or in the soil extract.

In America and elsewhere many methods have been proposed for the purpose of obtaining the "Soil Solution" and the "Soil Extract" in liquid phase studies, but for the purposes of this investigation the 1 : 5 soil to water extraction method was used. By keeping the method uniform in every respect throughout, it was hoped that some comparable results might be obtained which would throw some light upon the problem. An advantage of this method is, provided sufficiently pure distilled water is used, a more or less complete analysis can be made of the resulting extract and this seemed very desirable.

The soil used for this work was obtained from the same samples as used for the acidity test—i.e., air dried fine earth, 3ins. The

procedure adopted for obtaining the 1 : 5 soil extract and the method of its analysis are briefly outlined below :—

200 grams of air dried fine earth were placed in a Winchester quart bottle and a litre of distilled water added. The bottle was placed in an end-over-end shaking machine as quickly as possible and shaken for three minutes. At the end of this time it was removed and violently shaken by hand for half a minute and the contents then poured on to a Buchner funnel and filtered. The clear filtrate was evaporated to dryness and weighed to a constant weight—*total solids*. The total solids were taken up in a small quantity of aqua regia in order to get rid of the organic matter, and the silicia precipitated. The filtrate was made up to 100ccs. with water and aliquot portions were taken for the various determinations as under :—

- (1) *Iron*. This was estimated colorimetrically by the thio-cyanate method.
- (2) *Aluminium*. The Alizarin Red S method of Attack (2) was used for the estimation of aluminium.
- (3) *Manganese*. Estimated by the potassium persulphate colorimetric method.
- (4) *Calcium*. The calcium in the solution was precipitated with ammonium oxalate and estimated titrimetrically.
- (5) *Magnesium*. The percentage of magnesium present was ascertained by the gravimetric method as magnesium pyrophosphate.
- (6) *Potassium*. Estimated gravimetrically by the perchloric acid method.
- (7) *Phosphorus*. Determined by the ammonium-phosphomolybdate method, titrating the final product with N/10 NaOH.

The tables below give the results obtained from the analyses of the soil extracts at the time of applying the manures and lime (*i.e.*, Spring of 1924), and a year afterwards (Spring of 1925). *All the figures given in these tables (from Table No. 7 onwards) have been calculated as parts per million of the original air dried fine earth.*

TABLE NO. 7. COMPOSITION OF THE SOIL EXTRACT (1 : 5).

TOTAL SOLIDS. (Parts per million).

Centre	Date of Sampling.	PLOTS.								
		Slag	Slag + Lime.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime.	Unmanured No. 1.	Unmanured No. 2
No. 1.	Spring 1924	750	---	880	—	655	—	—	870	665
	" 1925	1055	1905	1005	1310	610	1050	1181	870	706
No. 2.	" 1924	316	—	359	—	929	—	—	346	640
	" 1925	968	1328	875	1120	979	1220	1200	800	—
No. 3.	" 1924	1157	—	1050	—	970	—	—	1060	1060
	" 1925	1100	1508	1162	1558	1000	1562	1468	983	—
No. 4.	" 1924	584	—	399	—	450	—	—	400	449
	" 1925	586	1205	609	1267	500	1000	1002	406	—

Consideration of these data brings our four main points :—

- (1) While there is a considerable variation in the amount of total solids present in the soil extracts from the different centres, there is only a slight variation in the total solid content from the different plots at any one centre.
- (2) The figures show that lime greatly increases the total solids present in the soil extract. This result is obtained on all plots.
- (3) Superphosphate, without exception, increases the total solids content.
- (4) In some cases slag and ground mineral phosphate increase the total solid content and in others there is a slight decrease. The general tendency is, however, to cause an increase.

TABLE No. 8. COMPOSITION OF THE SOIL EXTRACT.

SILICA (as SiO_2). (Parts per million)

Centre	Date of Sampling.	PLOTS.								
		Slag	Slag + Lime.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime.	Unmanured No. 1.	Unmanured No. 2
No. 1.	Spring 1924	35	—	35	—	40	—	—	35	35
	" 1925	38	36	36	40	56	81	35	34	36
No. 2.	" 1924	46	—	39	—	24	—	—	35	35
	" 1925	38	53	36	34	33	48	40	26	—
No. 3.	" 1924	25	—	25	—	25	—	—	24	28
	" 1925	41	30	27	25	29	36	24	25	—
No. 4.	" 1924	32	—	75	—	30	—	—	44	31
	" 1925	35	31	46	48	46	54	38	41	—

From these figures it seems that there is a general tendency for lime, when used in conjunction with the phosphatic manures to bring about a slight increase in the amount of the soluble silicates present in the soil extract. Slag alone and superphosphate alone have produced variable results at the different centres, but mineral phosphate alone has given a higher silica figure at all centres and this increase has been amplified by the addition of lime.

This increase in silica when lime and ground mineral phosphate are used may be due to the formation of soluble silica compounds due to the reaction of the lime with the insoluble silicates in the soil.

TABLE NO. 9. COMPOSITION OF THE SOIL EXTRACT.

IRON (Fe_2O_3). (Parts per million).

Centre	Date of Sampling.	PLOTS.								
		Slag	Slag + Lime.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime.	Unmanured No. 1.	Unmanured No. 2.
No. 1.	Spring 1924	7.2	—	6.6	—	8.6	—	—	5.9	7.9
	" 1925	3.1	2.0	7.0	4.0	6.0	3.0	7.0	8.2	—
No. 2.	" 1924	3.0	—	3.0	—	7.0	—	—	3.0	5.0
	" 1925	1.5	1.5	2.5	1.5	3.0	2.0	3.0	3.5	—
No. 3.	" 1924	2.4	—	3.2	—	2.4	—	—	3.3	2.7
	" 1925	1.8	1.9	4.0	2.5	3.2	1.0	4.3	5.0	—
No. 4.	" 1924	1.5	—	1.5	—	1.5	—	—	1.5	1.7
	" 1925	0.7	6.0	4.0	3.0	1.0	0.7	3.3	4.0	—

An examination of these figures shows that there is a tendency for the amount of water extractable iron compounds to increase on the untreated plots. It will be seen that in every case the amount was greater in 1925 than 1924. Slag, on the other hand causes a reduction of approximately 50% in the Fe_2O_3 present in the soil extract at all centres.

At three centres out of the four there is an increase in the iron on the plots receiving the application of superphosphate. Lime alone, or when used together with the phosphatic manures brings about a decrease in the Fe_2O_3 content of the soil extract. There is one exception to this and that is on the slag and lime plot at centre No. 4.

TABLE NO. 10. COMPOSITION OF THE SOIL EXTRACT.

ALUMINIUM (Al_2O_3). Parts per million.)

Centre	Date of Sampling.	PLOTS.								
		Slag	Slag + Lime.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime.	Unmanured No. 1.	Unmanured No. 2.
No. 1.	Spring 1924	2.5	—	7.5	—	5.0	—	—	4.5	0.8
	" 1925	0.5	0.1	9.9	8.0	3.0	2.5	1.7	6.0	1.0
No. 2.	" 1924	10.0	—	0.5	—	1.0	—	—	0.5	5.0
	" 1925	7.5	4.0	1.0	1.5	7.5	7.5	1.0	8.0	8.0
No. 3.	" 1924	10.0	—	9.0	—	15.0	—	—	7.0	8.0
	" 1925	7.4	5.0	12.0	16.0	21.0	9.0	9.5	8.0	—
No. 4.	" 1924	4.4	—	5.0	—	5.0	—	—	5.0	5.0
	" 1925	0.7	2.0	1.0	0.6	3.0	6.0	3.0	6.0	—

From the foregoing table it is obvious that the aluminium content of the soil extract is very variable—being as much as 10 parts per million on one field (Centre No. 1) and as little as 0.5 p.p.m. on the Unmanured Plot No. 1 at Centre No. 2. A similar range is seen on several of the other plots. At Centre No. 3, where the aluminium is highest—least response to any of the manures has been obtained.

One consistent factor is revealed in Table No. 10—basic slag, or basic slag and lime cause a considerable reduction in the amount of the Al_2O_3 soluble in water.

TABLE NO. 11. COMPOSITION OF THE SOIL EXTRACT.
MANGANESE (Mn_3O_4). (Parts per million).

Centre.	Date of Sampling.	PLOTS.								
		Slag	Slag + Lime.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime.	Unmanured. No. 1.	Unmanured. No. 2.
No. 1.	Spring 1924	0.3	—	0.4	—	0.3	—	—	Nil.	0.2
	" 1925	0.2	Nil.	0.5	0.2	0.4	0.1	0.2	0.3	0.4
No. 2.	" 1924	0.2	—	0.4	—	1.3	—	—	Nil.	0.2
	" 1925	0.15	0.05	0.5	0.2	0.1	0.05	0.5	0.4	—
No. 3.	" 1924	1.0	—	1.1	—	1.0	—	—	1.0	0.8
	" 1925	0.5	Nil.	1.7	3.5	1.0	0.5	2.0	1.5	—
No. 4.	" 1924	Nil.	—	0.08	—	0.09	—	—	0.05	Nil.
	" 1925	Nil.	Nil.	0.10	0.05	0.10	0.06	0.10	0.09	—

When dealing with such small amounts as fractions of parts per million and having due regard to the high experimental error in connection with soil sampling, it is somewhat doubtful if the data presented in Table 11 have any great value. However, in view of the work that has been done on the toxic effect of small quantities of manganese in the soil and also the fairly close correlation obtained at the four different centres in regard to the action of the phosphatic manures and lime on the Mn_3O_4 content, the following observations can be made :—

- (1) On the slag alone plots there is a slight decrease in the water soluble Mn_3O_4 .
- (2) On the superphosphate alone plots there is a slight increase in the Mn_3O_4 .
- (3) Lime alone appears to cause an increase in the Mn_3O_4 content of the soil extract, but when used in conjunction with any of the phosphatic manures, the opposite occurs—i.e., a decrease.

TABLE NO 12. COMPOSITION OF THE SOIL EXTRACT.

CALCIUM (CaO). (Parts per million).

Centre	Date of Sampling.	PLOTS.								
		Slag	Slag + Lime.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime.	Unmanured No. 1.	Unmanured No. 2.
No. 1.	Spring 1924	45	—	39	—	47	—	—	43	51
	" 1925	62	220	22	196	89	168	160	45	45
No. 2.	" 1924	25	—	13	—	27	—	—	22	31
	" 1925	58	202	73	150	56	123	167	67	—
No. 3.	" 1924	49	—	47	—	45	—	—	47	45
	" 1925	56	168	28	112	50	140	146	34	—
No. 4.	" 1924	26	—	19	—	19	—	—	20	20
	" 1925	28	146	45	141	34	129	118	17	—

The data presented in Table 12 illustrate strikingly the great increase that is brought about in the soluble calcium compounds in the soil when lime is applied to the soil, either alone or with the other manures. It is shown later that there is practically no visible improvement in the herbage on these plots. On the other hand, at Centre No. 1, it will be shown also that superphosphate has given marked results despite a reduction in the CaO content. It thus seems just to conclude that the initial response in the field is not one due to lime. Whether lime brings about an improvement in the feeding value of the grass on the plot is another question, and one which is worthy of closer investigation. After all, our present method of estimating grassland improvement by observation is somewhat unscientific and there is a great need for some definite system of measurement of this improvement to be established. Work carried out elsewhere (3) has proved conclusively that lime is the only agent capable in some instances of bringing about the initial improvement of poor matted pastures. This particularly

applies to grassland situated in areas within the range of large volumes of smoke from furnaces (*e.g.*, Yorkshire). It would appear that poor pasture resulting from this "induced" acidity can only be improved by first correcting the acidity with lime. The "natural" soil acidity obtaining in many of the soils of the West of England pastureland does not seem to be such a limiting factor.

TABLE NO. 13. COMPOSITION OF THE SOIL EXTRACT.

MAGNESIUM (MgO). (Parts per million).

Centre	Date of Sampling.	PLOTS.								
		Slag	Slag + Lime.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime.	Unmanured No. 1.	Unmanured No. 2.
No. 1.	Spring 1924	19	—	17	—	25	—	—	16	24
	" 1925	20	28	10	25	33	28	33	24	—
No. 2.	" 1924	25	—	21	—	23	—	—	14	32
	" 1925	14	40	30	40	19	30	36	26	—
No. 3.	" 1924	27	—	27	—	28	—	—	27	27
	" 1925	24	32	22	29	23	26	33	25	—
No. 4.	" 1924	23	—	25	—	23	—	—	22	22
	" 1925	22	36	21	40	18	22	33	21	—

The chief point of interest brought out by these figures is the increase in the MgO on all the limed plots, with the exception of the mineral phosphate and lime plots at Centres 2 and 3 where the soluble MgO has been decreased. Generally speaking, therefore, the MgO and the CaO figures run parallel and the results in Table No. 13 would appear to be due either to a certain amount of soluble MgO being present in the lime, or to base exchange reactions in the soil.

TABLE NO. 14. COMPOSITION OF THE SOIL EXTRACT.

POTASSIUM (K_2O). (Parts per million).

Centre	Date of Sampling.	PLOTS.								
		Slag	Slag + Lin.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime.	Unmanured No. 1.	Unmanured No. 2.
No. 1.	Spring 1924	68	—	64	—	25	—	—	80	63
	" 1925	80	110	40	68	50	81	80	46	44
No. 2.	" 1924	50	—	44	—	60	—	—	63	53
	" 1925	85	78	75	70	80	83	100	75	—
No. 3.	" 1924	33	—	28	—	42	—	—	33	33
	" 1925	50	62	40	51	55	58	70	35	—
No. 4.	" 1924	50	—	58	—	43	—	—	39	43
	" 1925	92	100	70	83	65	70	81	35	—

On all the phosphatic plots (with the exception of superphosphate at Centre No. 1), there is a striking increase in the amount of potash in the soil extract. Lime has produced a similar result. This result is in agreement with older work on the subject from which it is an established fact that calcium is capable of rendering the insoluble potash in the soil available, by replacing it in the zeolitic clay compounds.

TABLE NO. 15. COMPOSITION OF THE SOIL EXTRACT.
PHOSPHORUS (P_2O_5). (Parts per million).

Centre	Date of Sampling.	PLOTS.								
		Slag	Slag + Lime.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime.	Unmanured No. 1.	Unmanured No. 2
No. 1.	Spring 1924	11	—	90	—	66	—	—	58	60
	" 1925	45	22	82	150	98	152	52	45	—
No. 2.	" 1924	19	—	19	—	19	—	—	15	11
	" 1925	45	33	30	27	24	30	29	32	—
No. 3.	" 1924	Nil.	—	Nil.	—	N 1.	—	—	Nil.	Nil.
	" 1925	40	30	39	39	Nil.	23	15	Nil.	—
No. 4.	" 1924	31	—	23	—	30	—	—	30	30
	" 1925	100	75	81	112	52	70	53	33	—

These figures show that whilst basic slag has produced a higher phosphate content in the soil extract after a year's action, at all centres, lime has actually retarded the action of the slag—if any measure of the reaction can be taken by the readily soluble phosphoric acid present in the soil extract. On the other plots the phosphatic dressings have (with the exception of the superphosphate alone plot at Centre No. 1), produced an increase in the P_2O_5 , but with those manures when compared with slag a reverse reaction takes place when lime is applied with them inasmuch as the general tendency is for the lime to cause still more of the phosphates to go into solution.

2 (a). *General Field observations—Periodical Visits to the Plots.*
January, 1924—May, 1926.

Each centre was visited periodically from the time the plots were laid down and observations were made as to the response the herbage had made to the manuring and to the extent to which cattle had grazed on the plots. The response obtained on the various plots is indicated in the following summaries (Tables 16-19 inclusive):—

TABLE NO. 16. SUMMARY OF RESULTS AT CENTRE NO. 1.
BACKWELL, SOMERSET.

Date of Visit.	PLOTS.						
	Slag.	Slag. + Lime.	Super.	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime alone.
Jan. 20th, 1924	—	—	—	—	—	—	—
May 1st, 1924	—	—	Slight	Slight	—	—	—
June 6th, 1924	Slight	Slight	Good	Good	—	—	—
July 30th, 1924	Fair	Fair	Good	Ex'lent.	—	—	—
Sept. 10th, 1924	Good	Good	Ex'lent.	Ex'lent.	Slight	—	—
April 4th, 1925	V. Good	V. Good	Ex'lent.	Ex'lent.	Fair	—	—
May 5th, 1925	Good	Fair	Ex'lent.	Ex'lent.	Good	Fair	—
April 27th, 1926	Good	Ex'lent.	Ex'lent.	Ex'lent.	Ex'lent.	Good	Fair

The general inference from these observations is that phosphatic manures are capable of greatly improving the herbage on this type of soil. Of the phosphatic manures used, superphosphate produces the quickest and best results. Slag is not quite so quick and ground mineral phosphate still slower. Lime does not appear to be an economic proposition. Used alone it has produced practically no result after over two years, and although it appears to have assisted in the beneficial action of the superphosphate, that manure by itself has produced excellent results and the slight additional results obtained when the two were used together is not worth the additional cost of the lime.

TABLE NO. 17. SUMMARY OF RESULTS AT CENTRE NO. 2.
SHEPTON MALETT, SOMERSET.

Date of Visit.	PLOTS.						
	Slag.	Slag. + Lime.	Super	Super + Lime.	Min. Phos.	Min. Phos. + Lime.	Lime alone
Feb. 27th, 1924	—	—	—	—	—	—	—
May 11th, 1924	—	—	Slight	—	—	—	—
June 22nd, 1924	—	—	Fair	Fair	—	—	—
Sept. 12th, 1924	Fair	Fair	Good	Good	—	—	—
Mar. 9th, 1925	Good	Good	Ex'lent.	Ex'lent.	Slight	—	—
Oct. 8th, 1925	V. Good	Good	Ex'lent.	Ex'lent.	Good	V. Fair	—
May 28th, 1926	Ex'lent.	V. Good	Ex'lent.	Ex'lent.	Good	V. Fair	—

Inferences :—

- (1) Superphosphate gives best and quickest result.
- (2) Slag very nearly as good as superphosphate but not quite so quick acting.
- (3) Ground mineral phosphate slower in action than superphosphate and slag, but will give quite good results on this type of soil in two years, at less cost per acre than the other manures.
- (4) Lime has given no beneficial result after over two years contact with the soil, in fact it has definitely retarded the action of mineral phosphate and slag.

TABLE NO. 18. SUMMARY OF RESULTS AT CENTRE NO. 3.
FRAMPTON COTTRELL, GLOUCESTER.

Date of Visit.	PLOTS.						
	Slag.	Slag + Lime.	Super	Super + Lime.	Min. Phos.	M n. Phos. + Lime	Lime alone.
Mar. 24th, 1924	—	—	—	—	—	—	—
May 12th, 1924	—	Slight	burning	effect.	—	—	—
June 30th, 1924	Fair	Good	—	Slight	—	Slight	Slight
Aug. 1st, 1924	Fair	Fair	Good	Ex'lent.	—	—	—
Sept. 11th, 1924	Fair	Fair	V. Fair	V. Fair	Fair	Fair	—
Mar. 17th, 1925	Fair	Fair	Fair	Fair	Fair	Fair	—
May 9th, 1926	Good	Fair	Fair	Fair	Fair	Fair	—

Inferences :—

- (1) The general improvement of the plots as a result of the manurial treatment has only been slight.
- (2) At one period (August 1st, 1924)—i.e., five months after the application, it appeared as though the superphosphate plot was going to be definitely improved, but this slight improvement was not so noticeable a month later and recent observations indicate that the increase in clover was only very temporary.
- (3) On the whole the best results have been obtained from slag.
- (4) Lime has had practically no effect.

TABLE NO. 19. SUMMARY OF RESULTS AT CENTRE NO. 4.
PEWSEY, WILTS.

Date of Visit.	PLOTS.						
	Slag.	Slag + Lime.	Super.	Super + Lime.	Min. Phos.	Min.P. + Lime.	Lime alone
March 20th, 1924	—	—	—	—	—	—	—
June 23rd, 1924	Good	Slight	—	—	—	—	—
Sept. 28th, 1924	Ex'lent.	Good	Slight	Slight	Very Slight	Very Slight	Very Slight
March 3rd, 1925	Good	Ex'lent.	—	—	Fair	Fair	Fair
April 29th, 1926	Ex'lent	Good	Good	Ex'lent	Very Fair	Very Fair	Slight

Inferences :—

- (1) Slag appears to give the quickest and best results.
- (2) Superphosphate produces good results, but these were not apparent until some time after the slag results had been observed.
- (3) The response to mineral phosphate is only slight.
- (4) The response to lime is very slight. When used together with superphosphate, lime has produced excellent results, but it appears to inhibit the action of ground mineral phosphate.

No. 2 (B). *The Botanical Analyses of the Herbage.*

In order to ascertain, if possible, the changes that may take place in the composition of the herbage—as judged by the species of grasses and clovers present—as a result of manuring pastures with suitable phosphatic manures and lime, a botanical analysis was made of the herbage of each of the plots at the experimental centres.

Botanists are of the opinion that with such analyses it is somewhat difficult to obtain useful results, as it is practically impossible to obtain an area in one plot which is truly representative of that plot as a whole. Even if several analyses are made at different places in one plot and the average of the results taken, it will be seen that if any one of the areas analysed differs widely from the average, a final result will be obtained which will give very misleading figures.

Several methods for the botanical analysis of pastures have been used by different workers. These methods usually come under one of the following headings:—

- (1) Counting the number of different plants on a given area.
- (2) Cutting the herbage on a given area and then identifying and counting the specimens in the "hay."
- (3) Calculating the amount of space covered by the different species in a given area.

Method No. 1 is an extremely difficult one, particularly in the case of permanent grassland which has responded to manuring and given an increase in the area covered by wild white clover. This plant is creeping in habit and its runners may run along the ground and root in several places. In such cases the application of this method is somewhat difficult. Method No. 2 is likewise very difficult and tedious, and No. 3 as described by Armstrong (1) in which a measurement is made of the amount of ground covered by the species, lends itself more to the type of investigation in progress and it was used in order to make the analyses of the grassland under consideration.

The method adopted was as follows:—A stout galvanised iron wire sieve was made so as to have 144 sections, each section being 1 inch by 1 inch. This was mounted on to a wooden frame measuring 1 foot each side.

In conducting the analysis this frame was placed on the turf and any herbage that was bent down so as to trespass on to a square to which it did not belong, was straightened out by means of a pair of forceps. The area, in inches as covered by each specie, was then obtained and each was worked out as a percentage of the whole. This was repeated in five other places on the field, making a total of six determinations. The average of the six analyses was recorded as the botanical analysis of the plot. In order to obtain the six sites for the analysis, six points were selected along a diagonal of the plot. The areas selected were those which appeared to be most representative of the plot as a whole. This method seemed to be much more satisfactory than the one of throwing the frame down at random, as it is conceivable that even in a good pasture field, it might easily fall on a space 1 foot square, practically devoid of any form of vegetation. This would obviously seriously affect the final result and would, at the same time, give figures which would be somewhat misleading and in all probability not truly representative.

TABLE No. 20. SUMMARY OF THE BOTANICAL ANALYSES.

	AFTER 4 MONTHS.										AFTER 16 MONTHS.									
	PHOSPHATES.					LIME WITH					PHOSPHATES					LIME WITH				
	Slag.	Super.	Min. Phos.	Con- trol.	Lime.	Slag.	Super.	Min. Phos.			Slag.	Super.	Min. Phos.	Con- trol.	Lime.	Slag.	Super.	Min. Phos.		
<i>Centre No. 1.</i>																				
Useful Grasses	47	41	34	42	47	15	19	33			37	35	38	43	52	15	20	34		
CLOVERS	22	36	21	4	16	34	40	9			27	39	19	8	21	30	45	21		
Useless Grasses and Weeds	31	23	45	54	37	51	41	58			36	26	43	49	27	55	35	45		
<i>Centre No 2.</i>																				
Useful Grasses	63	20	35	54	54	50	20	35			38	25	45	54	54	40	28	54		
CLOVERS	4	52	21	16	16	18	43	21			35	46	24	10	10	30	52	17		
Useless Grasses and Weeds	33	28	44	30	30	32	37	44			27	29	31	36	36	30	20	29		
<i>Centre No. 3.</i>																				
Useful Grasses	77	74	63	68	68	72	65	69			71	70	64	73	66	72	70	72		
CLOVERS	15	9	11	5	7	14	11	10			15	16	12	7	8	17	10	11		
Useless Grasses and Weeds	7	17	26	27	25	14	24	21			14	20	24	20	26	11	20	17		
<i>Centre No. 4.</i>																				
Useful Grasses	26	52	48	43	37	44	52	35			32	40	41	36	41	36	45	39		
CLOVERS	38	14	13	17	—	6	4	17			24	11	13	4	12	22	18	16		
Useless Grasses and Weeds	36	34	39	40	63	50	44	48			44	49	46	60	47	42	37	45		

Table No. 20 contains the summary of the botanical analyses at each centre, made four months and sixteen months after the application of the manures and lime. The analyses in all cases were made during the month of June.

In considering these data on the botanical analyses of the pastures, it is somewhat difficult to come to any definite conclusions as to the fate of the grasses after treatment. In some cases it will be seen that the so called "useless" grasses have increased and the "useful" grasses decreased. These analyses do not take into account possible alterations in the "feeding value" of the grasses.

The majority of these acid pastures contain a fairly high proportion of the fescue grasses—often up to 50% of the total herbage. These fescues are definitely good and "useful" grasses, at the same time on these poverty stricken areas they are, in effect, "useless" in as much as they become tough, wiry, unpalatable and are never grazed. In such a manner they form a "mat," thereby inhibiting the growth of the clovers, etc. After correct manurial treatment, however, these grasses become palatable to stock and are grazed. Unfortunately in our present systems of estimation the value of the improvement of a pasture as the direct result of manuring, account is only taken of the "appearance" of the pasture in general as judged by the eye. There does not exist any satisfactory method of measuring the actual improvement in the feeding value of the pasture itself. Work, on these lines, is however, in progress elsewhere (8).

In general, the results obtained from the botanical analyses of these pastures show a marked increase in the percentage of clovers in the pasture after 16 months treatment. At Centre No. 1 the increase is from 8% on the unmanured control to 45% on the superphosphate and lime plot—and an ocular inspection of the plot verifies these figures. At Centre No. 2 the increase is from 10% to 52%. At Centre No. 3, the increase is considerably less—7% to 17%, and field inspection bears this out very well. At Centre No. 4 the increase is from 4% to 22%.

If the figures given in Table No. 20 are compared with the summary of observations on the plots at the last date of inspection (Tables 16-19) it will be seen that there is close correlation between the improvement as measured by the "eye" and that as calculated by means of the "count" of the clovers present.

Table No. 20 clearly shows also, that where a definite response has been obtained as a result of manurial treatment there is a marked decrease in the percentage of useless grasses and weeds. The better the response, the more pronounced is this reduction in the percentage of useless grasses and weeds.

2 (c) *The Chemical Composition of the Grasses.*

It is invariably found that where improvement of a pasture takes place as the result of phosphatic manuring, the first effect noticed is that cattle begin to graze down the coarse tufts of grass which had previously been untouched by them. From this it would seem that some change must take place in the grass whereby it is rendered more attractive and palatable to stock. It was therefore decided to investigate this point and the following determinations were made on samples of grass taken from the rough patches on each plot :—

- (1) Moisture content.
- (2) Fibre content.
- (3) Ash content.

This work was carried out in September, 1924, *i.e.*, six months after the application of the manures and when the grazing season was well advanced. The plots at all the centres had been fairly heavily "stocked" with cattle throughout the summer. For the purposes of the experiment the predominating rank grass in the tufts at each of the centres was taken and the determinations were carried out on this grass. Sampling was done on as dry a day as possible and at 12 o'clock noon. It was almost impossible in the early autumn of 1924 to secure the grass dry at the base owing to the extremely wet weather which prevailed that year. The grass was cut by means of a pair of sharp scissors as near to the ground level as possible. All dead or decaying material was rejected. 25 tufts were sampled from each plot and the composite samples were placed in tared glass bottles having tightly fitting tared rubber stoppers. Immediately upon arrival at the laboratory the bottles and their contents were weighed and from this the weight of grass collected was determined by difference. The grass was then transferred to weighed 400 c.c. beakers and dried in the steam oven at 95°C. to a constant weight. For most of the samples this took about 72 hours. The loss in weight was taken as the moisture content of the grass.

A portion of the dried material was used for the fibre estimation. This was done by the official method as used in the analysis of foodstuffs and as described in Woods handbook (7).

The ash determination was made on another portion of the dried material by ignition in a platinum dish.

The results obtained are given in Table No. 21.

TABLE NO. 21. MOISTURE FIBRE* AND ASH* CONTENT OF THE GRASSES.

Centre and Plot.		Grass.	Moisture.	Dry Matter.	Fibre.	Ash.
No. 1.		Cocksfoot.	%	%	%	%
Slag	Plot	..	84.2	15.8	4.34	0.16
Unmanured No. 1	..	..	76.0	24.0	5.97	0.13
Superphosphate	..	..	83.3	16.7	5.30	0.10
Unmanured No. 2	..	..	75.1	24.9	6.54	0.12
Mineral Phosphate	..	..	75.7	23.3	6.76	0.14
No. 2.		Sheeps Fescue				
Slag	Plot.	..	81.1	18.9	6.20	0.12
Unmanured No. 1	..	..	74.4	25.6	9.50	0.09
Superphosphate	..	..	80.7	19.3	6.50	0.13
Unmanured No. 2	..	..	70.2	29.8	9.60	0.10
Mineral Phosphate	..	..	76.4	23.6	7.30	0.10
No. 3.		Hard Fescue				
Slag	Plot	..	83.6	16.4	7.30	0.15
Unmanured No. 1	..	..	70.2	29.8	9.10	0.10
Superphosphate	..	..	82.9	17.1	6.90	0.13
Unmanured No. 2	..	..	71.5	28.5	8.70	0.12
Mineral Phosphate	..	..	77.3	22.7	7.50	0.13
No. 4.		Sheeps Fescue				
Slag	Plot	..	82.9	17.1	6.50	0.22
Unmanured No. 1	..	..	65.0	35.0	10.10	0.16
Superphosphate	..	..	71.0	29.0	7.40	0.13
Unmanured No. 2	..	..	63.7	36.3	10.70	0.13
Mineral Phosphate	..	..	76.5	23.5	5.60	0.13

As percentage of the original material.

TABLE No. 22. SUMMARY OF MOISTURE, FIBRE AND ASH DATA.

	CENTRE 1.				CENTRE 2.				CENTRE 3.				CENTRE 4.			
	Cocksfoot.				Sheeps Fescue.				Hard Fescue.				Sheeps Fescue.			
	Phosphate.	Con-trol.	Diff. †		Phosphate.	Con-trol.	Diff.		Phosphate.	Con-trol.	Diff.		Phosphate.	Con-trol.	Diff.	
MOISTURE..	81.1	75.6	+5.5		79.4	72.3	+7.1		81.3	70.9	+10.4		76.8	64.4	+12.4	
DRY MATTER	18.9	24.4	-5.5		20.6	27.7	-7.1		18.7	29.1	-10.4		23.2	35.6	-12.4	
FIBRE ..	5.47	6.30	-0.83		6.7	9.5	-2.8		7.2	8.9	-1.7		6.5	10.4	-3.9	
ASH ..	0.13	0.12	-0.01		0.12	0.09	+0.03		0.14	0.11	+0.03		0.16	0.13	+0.03	

† Increase or decrease due to phosphatic manuring.

Three interesting points are brought out by these figures :—

- (a) A general effect of phosphatic manuring appears to be to cause a big increase in the moisture content of the grasses (varying from 5-12%). The smallest increase is where the soil is heaviest and the greatest where the soil is lightest (*vide* Table No. 1—Mechanical Analysis).
- (b) The figures indicate that there is a lower fibre content of the grass from the phosphate plots as compared with grass from the unmanured plots.

The inference from these data is that an initial result of phosphatic manuring is to produce a luscious and more tender herbage, which being more palatable to stock, results in the former rough ungrazed patches being eaten down. This gives more room for the development of the clovers.

- (c) The ash content of the grass is, in every case, slightly increased on the phosphate plots.

CONCLUSIONS.

From the foregoing experimental work the following conclusions are drawn :—

- (1) Certain acid pastures in the S.W. of England will respond readily to suitable dressings of phosphatic manure. The type of manure to use apparently does not necessarily depend upon the type of soil.
- (2) Although, generally speaking, lime produces a slightly greener herbage and to some extent encourages grazing, its beneficial and economical value on grassland of the types under investigation seems a very doubtful proposition. In the cases where it was used in conjunction with ground mineral phosphate it tended to depress the action of the manure.
- (3) The data obtained indicate that the cause of poverty of these soils is not so much due to acidity as to phosphate starvation. In the soil extract from the fields in their original state, the phosphoric acid is extremely low, but after treatment with any of the manures this is

increased. In some instances this increase is much greater than in others, and the "amount" of improvement in the herbage does not always run parallel with the percentage increase in the phosphoric acid content of the soil extract.

- (4) Of the manures used in the experiments, basic slag has given consistently good results and it has consistently—either directly or indirectly—brought about the following changes in the composition of the soil extract:—

(a) An increase in the Total Solids content.

(b) „ „ „ CaO „ „

(c) „ „ „ K_2O „ „

(d) „ „ „ P_2O_5 „ „

(e) A decrease „ „ Fe_2O_3 „ „

(f) „ „ „ Mn_3O_4 „ „

(g) „ „ „ Al_2O_3 „ „

The other manures, which have not been so consistent in their improvement of the herbage, have not, in the same way, produced consistently the same changes in the soil extract as basic slag.

- (5) The botanical analyses of the various plots indicate that, so far as the method used can measure, the improvement in the pasture results in a great increase in the percentage of wild white clover and a diminution in the amount of useless grasses and weeds. An interesting feature revealed by the botanical analyses is the almost complete absence of Perennial Rye grass (*Lolium perenne*) from these poor pastures.

The botanical analyses show the great increase in wild white clover in the pastures as a result of manuring with phosphates and the acidity data indicate that such manuring does not decrease to any extent this acidity. Thus clover can persist on extremely acid soils (Lime requirement 0.74%). Scott Robertson (5) found that in Essex, wild white clover could tolerate a lime requirement of 0.45% provided the season was comparatively wet, but he states that in a dry season clovers are absent from hay crops on all soils with a lime requirement

between 0.13 and 0.45%. It is probable, therefore, that the higher rainfall of the West of England, particularly during 1924, was to a large extent responsible for the persistence of the clovers on the experimental plots and it may be that the beneficial effect of lime will be apparent in a dry season.

- (6) The effect of phosphatic manures on some of the coarser and unpalatable grasses is to render them less fibrous and more succulent.

SUMMARY.

- (1) Results of an investigation of the effects of phosphatic manures and ground lime after one year's contact with the soil of certain pastures are reported.
- (2) Soil and herbage data are given to indicate the general condition of the fields before treatment.
- (3) Data on the acidity of the soil as measured by the usual standard methods are presented. From these data it is found that phosphatic manures do not consistently reduce the acidity, but lime in every case decreases the lime requirement.
- (4) Details are given of the method adopted to obtain the 1 : 5 soil to water extract and the method of its analysis.
- (5) Data on the composition of the 1 : 5 soil extract, before and after a year's treatment with phosphatic manures and lime are given. The salient points obtained from these analyses are :—
 - (a) Phosphatic manures and lime increase the total solids.
 - (b) Phosphatic manures and lime increase the phosphorus.
 - (c) Slag and lime increase the potassium.
 - (d) Slag decreases the iron, aluminium and manganese, but the results are not so definite with the other manures.
- (6) The results of general field observations on the plots at various intervals are recorded.
- (7) The botanical composition of the herbage is considered and it is found that the percentage of clovers is greatly increased on the phosphate plots and the proportion of useless grasses and weeds decreased.

- (8) The fibre content of the grass from the plots receiving phosphates is shown to be reduced. It is also demonstrated that phosphatic manures increase the moisture content of the grasses.

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REFERENCES.

- (1) Armstrong, S. F. (1907-8) Jour : Agric : Science, Vol 2, p. 283.
 - (2) Atack, F. W. (1915) Jour : Soc : Chem : Ind : p. 936.
 - (3) Hanley, J. A. (1918) Jour : Soc : Chem : Ind. XXXVII. pages 185-190. University of Leeds Bull : 107.
 - (4) Hutchinson, H. B. and McLennan, K. (1914) Jour : Agric : Sc : Vol. 7, p. 75.
 - (5) Robertson, G. S. (1922) Basic Slags and Rock Phosphates. Cambridge Agric. Monograph.
 - (6) Wallace, T. (1924-25) Jour : Bath and West Soc : Fifth Series, Vol. XIX, p. 77.
 - (7) Wood, T. B. (1919) A Course of Pract. Agric : Chem : (Cam : Un : Press).
 - (8) Woodman, H. E., Blunt, D. L. and Stewart, J. (1926) Jour : Agric : Sc : Vol. XVI, Part 2, p. 203.
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VI.—AN INTENSIVE METHOD OF MANAGING PASTURES.

By J. A. Hanley, A.R.C.S., Ph.D.

The Bath and West and Southern Counties Society has, through its Experiments Committee, paid so much attention to the improvement of grass land that it would seem appropriate that its Journal should contain some reference to recent developments in grass land management.

The advantage of utilising phosphates on grazing land in conjunction with hard grazing was, until recently, considered to be usually *the* method of obtaining high productivity from most classes of grass land. The use of nitrogenous manures, and more particularly of sulphate of ammonia, was discouraged by most advisers, largely because of results obtained in experiments on the effect of

nitrogenous manures on meadow hay, and of unbalanced nitrogenous manuring on grass land grazed on an ordinary extensive plan.

During the war German agriculturists were called upon, just as we were, to increase the output from farm land. On one German Institute farm at Hohenheim, near Stuttgart, the idea was conceived of increasing the output from grass land as well as arable land.

It has, of course, always been realised that nitrogenous manuring will force on grasses and other miscellaneous plants in a pasture, but it was always believed that in doing so it must inevitably tend to produce a coarse, rank growth which in turn would suppress the finer grasses and clovers. At Hohenheim, however, drastic steps were taken to prevent unnecessarily rank growth due to applications of nitrogenous manures and in doing so it was possible to obtain for the grazing stock, in this case milk cows, a herbage at its very best.

The steps taken were of two kinds (1) the nitrogenous manures were carefully balanced by suitable applications of phosphate, potash and, when necessary, lime; (2) the herbage was always removed at a comparatively early stage in its growth, it was either grazed or mown whilst still in the leafy stage.

When these precautions were taken it was found that nitrogenous manuring exercised no harmful effect on the quality of the herbage. The equivalent of 5 cwts. sulphate of ammonia per acre was applied annually to the German plots, and those who saw these plots in 1926 assure us that there is now no sign of suppression of the clovers in spite of continuous treatment of this kind during the last ten years or so. The nitrogenous manure was applied in three or four doses throughout the season, beginning about February. Phosphates and potash, the former as basic slag or superphosphate and the latter as kainit or potash salts, were applied each autumn in quantities equivalent to about :—

$2\frac{1}{2}$ cwts. superphosphate	} per acre.
and 2 cwts. 40% potash salts	

These quantities have since been slightly reduced. Part of the nitrogen was applied as sulphate of ammonia, but part of it may also be applied as nitrate of lime or urea. The land is limed about every six years. In ordinary practice the liming will depend on the type of land.

The success of these German experiments led to the matter being taken up by the Sulphate of Ammonia Federation who, in the spring of 1926, started trials in this country. Three of these trials

were located respectively in North Yorkshire, North Cumberland and on the Hampshire-Wiltshire border. The results obtained during the summer of 1926 have undoubtedly been sufficiently startling to warrant careful consideration from all those interested in the success of grass land farming, even if there is still some doubt about the economics of this highly productive method or about the ultimate effect of the method continued over a number of years. We have at present, of course, very little evidence on these points. For the conditions in this country there are, however, many exceedingly useful lessons to be learnt from the results, and there would appear to be many possibilities of utilising modifications of the method under certain systems of farming.

INTENSIVE GRAZING.

Carefully controlled grazing is undoubtedly one of the most important factors in utilising the flush of herbage produced by heavy manuring and in preventing such forced growth from getting out of hand. Controlled grazing, as carried out under this intensive system, means small enclosures grazed in rotation. A comparatively large head of stock is concentrated on each enclosure (not exceeding about 8 acres) in turn and remains long enough, usually a week, to graze down the herbage completely, when the stock are moved on to the next enclosure. At the end of each grazing period the enclosures are thoroughly harrowed and the droppings spread.

During May and June growth is naturally exceedingly rapid and some enclosures are ready for grazing before stock is available. The herbage on these is mown whilst still in its leafy stage. It produces a hay of the very best quality even although the crop is on the light side and is not too easy to dry. If, however, the clovers and fine grasses are to be maintained in the herbage the removal of the crop in its leafy stage either by mowing or grazing is absolutely essential; if it cannot be grazed it *must* be mown. The method in fact approximates as nearly as is possible under ordinary farming conditions to the most intensive method of all, namely, tethering or folding.

In practice, such a method of grazing ensures that the herbage is being removed and utilised in its most palatable and nutritious condition. Recent research both at Aberystwyth and Cambridge has established the fact that the most valuable portion of grass is the leaf and that the composition of a very leafy herbage approximates to that of a highly concentrated ration except, of course,

that the grass ration contains more water. The system of manuring referred to above encourages just that type of leafy growth, provided the leaf is regularly removed. At the same time it spreads the production of this herbage, which one may compare with May grass, over most of the grazing season. Grazing may commence earlier in the spring, whilst in July, and even in August, the type of grass is still that palatable, luscious grazing, which one is accustomed to associate only with early summer. On account, possibly, of the encouragement of a deeper rooting habit the treated land does not appear to "burn" so badly in dry weather. At the same time lack of moisture is still a serious limiting factor during a drought.

On dairy farms the saving in concentrated foods for the higher yielding cows during summer months is likely to be considerable. There is already some evidence of this from the 1926 results on the Yorkshire farm. It was also noticeable on the same farm that some of the plots, which under the old conditions had produced a rather rough herbage, were much better grazed than in previous years, and that weeds including even thistles were tending to diminish. Against these advantages must be placed not only the cost of the manures, which is considerable, (under English conditions 3 cwts. per acre of sulphate of ammonia or nitrate of lime has been used during the year instead of the 5 cwts. employed at Hohenheim) but also the extra cost of fencing and watering necessary where large fields have to be sub-divided.

The available statistics show that under the intensive system the stock-carrying capacity of average grass land may be at least doubled, whilst in the case of milking farms it is probable that the output of milk from the grazing alone, *i.e.*, without the use of concentrates, may be proportionately increased. It is obvious, of course, that such a method can only be gradually introduced as its success depends to no small extent on increasing largely the number of stock carried.

VII.—THE SOCIETY'S EXHIBITION AT WATFORD.

By F. H. Storr.

It is not easy to imagine an Agricultural Show held under greater difficulties than those which confronted the Society in 1926 at Watford. The Show was due to open on May 25th, and on May 3rd the General Strike broke out so that it was not until 9 days before the opening that it was possible to decide that the Show need not be abandoned. In fact, even at that date, the Railway Companies were dubious of their ability to make the necessary arrangements. Transport was not the only important department affected. The stoppage in the printing trade, the effects of which lingered after the general strike was at an end, made it difficult to produce the Catalogue, and, in addition, interfered seriously with the production and distribution of posters advertising the Show. Those posters, too, which were displayed in the immediate neighbourhood of Watford were not in favourable positions. However, the Railway Companies and the printers rose to the occasion, and the Show when opened showed very few signs of the difficulties under which it had been completed. But nothing could make up for the lack of facilities for passenger traffic on the railways, where, instead of a good service of trains at cheap fares, only half the ordinary trains were running at the ordinary charges.

The Show was held in conjunction with the Hertfordshire Agricultural Society, who were represented at the opening ceremony by the Marquis of Salisbury. A cordial welcome was given to the visit of the Bath and West, and the Officers of the Society did everything in their power to promote the success of the Meeting. Special mention must also be made of the Local Secretary, Mr. Gordon Flint, whose untiring help was of the greatest value. The Site was a favourable one, on the main Hemel Hempstead Road, but the absence of trams was a serious drawback, which was not mitigated by a good service of motor buses.

The outstanding feature of the Show was undoubtedly the well-filled Stock Classes. Apart from rather medium entries in the heavy horse and sheep sections, the classes were well filled with stock of first-class quality. The numbers of cattle shown was easily a record in the annals of the Society, Blue Albion Cattle being added to the list of breeds represented, for the first time. The Show Yard was sufficiently large to allow of ample provision being made for judging rings, and there is probably no feature of a show yard which is of greater importance to the stock exhibitor and the general public.

Classes were included for rabbits and pigeons, the latter for the first time at this Society's Meetings. Unfortunately a sudden alteration in the rules of the National Pigeon Breeders' Association, to which body most exhibitors belong, militated against any considerable entry in these classes, but this is a difficulty which will not occur in future years.

Below will be found comparative tables of Stock Entries and those of Farm Produce in the years 1926, 1925 and 1896, the only other occasion in which the Society had visited Hertfordshire.

ENTRIES OF LIVE STOCK AND FARM PRODUCE.

	St. Albans. 1896	Maidstone. 1925	Watford. 1926
HORSES (with boxes)			
Agricultural	107	46	56
Hunters. Hacks and Ponies ..	171	78	100
	—278	—124	—156
CATTLE —			
Devon	42	14	26
South Devon	—	20	10
Shorthorn	77	29	40
Dairy Shorthorn	—	46	66
Hereford	48	18	26
Sussex	44	50	16
Aberdeen Angus	22	24	39
British Friesian	—	58	57
Red Poll	—	17	29
Welsh Black	—	17	22
Ayrshire	—	13	19
Blue Albion	—	—	22
Jersey	168	57	74
Guernsey	109	69	85
Kerry	27	25	16
Dexter	—	24	31
Milk Recorded	—	15	20
Dairy	37	106	118
	—574	—602	—716
SHEEP	226	195	175
GOATS	42	44	64
PIGS	0*	335	357
POULTRY	443	415	538
PIGEONS and RABBITS	—	—	114
FARM PRODUCE —			
Cheese	114	27	30
Butter and Cream	180	52	63
Cider	51	41	25
	—345	—120	—118
	1908	1835	2238

* Owing to the prevalence of Swine Fever.

IMPLEMENTS.

The space taken for exhibits of implements and machinery was considerably smaller than the average of recent years. Two causes were mainly responsible for this, the close proximity of Watford to London, and the holding of the R.A.S.E. Show at Reading. The space taken would have presented a still smaller total had it not been for a considerable accession of exhibits of motor cars, a reflection of one of the few bright spots in British industries during the period of depression through which the Country has been passing. The comparative figures for the years 1896, 1925 and 1926, are as follows :—

	St. Albans. 1896	Maidstone. 1925	Watford. 1926
Machinery in Motion .. feet run	1190	1512	1358
Agricultural Implements	} 4849	} 1580	} 730
Other Exhibits not strictly Agricultural			
Seeds, Cattle Foods, Artificial Manures, etc.	595	1449	1032
Open Space for Farm and Horticultural Buildings, etc. sq. feet	16238	53672	42777

GENERAL REMARKS.

The Hertfordshire County Council rivals that of Kent for the completeness with which it deals with Agricultural Education. The building devoted to the work of the primary and secondary schools, the school gardens and the display of blacksmith's work which was organized by the County Council, formed one of the most attractive displays in the Show Yard. The demonstrations of points in the practice of bee keeping and fruit culture were excellently carried out by County Council officers ; and it was regrettable that there was not a larger number of persons present to take advantage of them. Another unfortunate result of the general strike was that Chelsea Flower Show had been postponed to the same week as the Society's Meeting, so that many firms were unable to send exhibits as they had intended. What exhibits there were, were of good quality and were seen to the best advantage.

A feature of the programme was a fine display of mounted police, chiefly from the Metropolitan force. This proved to be a popular

attraction, as did the display of physical training given by scholars from the Hertfordshire elementary schools. As regards the competitions in butter-making, milking and shoeing, comparative figures for which are given below, it was surprising to find such a poor entry in the milking competition. The neighbourhood of London precludes any extensive attention to butter-making, but milking must be an important item in the farm work over most of Hertfordshire and Buckinghamshire. On the other hand the result of the work done by the County Council was clearly shown in the excellent competition in shoeing.

ENTRIES IN COMPETITIONS FOR MEN AND WOMEN.

	St. Albans. 1896	Maidstone. 1925	Watford. 1926
Butter-Making (Entries now limited) ..	137	40	63
Milking	24	9	10
Shoeing	38	32	53
	199	81	126

ATTENDANCE.

Only on two occasions has the total attendance at one of the Society's Meetings been lower than that at Watford. Of the reasons for this deplorable result the general strike, perhaps the principle one, has already been mentioned, and no more can be said of the strike except that it is not likely to recur at a date, which as in 1926, caused the maximum of inconvenience to the Society. That Londoners will not visit agricultural shows is known to other Societies than the Bath and West, and no doubt minor reasons could be found. The result was a serious loss to the Society.

NUMBERS OF ADMISSION.			ADMISSION RECEIPTS.		
St. Albans. 1896	Maidstone. 1925	Watford. 1926	St. Albans. 1896	Maidstone. 1925	Watford. 1926
34,436	38,496	23,349	£2,703 7 9	£5,417 17 2	£2,889 17 6

VIII.—REPORT ON THE SOCIETY'S DAIRY DEPARTMENT AT WATFORD.

By A. F. Somerville, Steward.

As in former years, the work of this Department was divided into Sections; this year two Milking Goats Competitions were added.

Produce; Working Dairy; Tests; Sale of Produce; Milking Competitions; Goats Milking Competitions; Clean Milk Demonstrations.

PRODUCE.

Cheese. There were 30 entries for the three classes of Cheddar Cheese, which were judged by Mr. A. Todd, British Dairy Institute, Reading, who reported as follows:—On the whole the Cheese Exhibit was very good. Some very well-made cheeses were shown in all three classes. The flavour with the exception of one or two lots was exceedingly good, but in a number of cases the texture was open and rough. The first prize winning lots in the two large classes were excellent Cheese and outstanding winners.

Butter, Soft Cheeses and Scalded Cream. The entries for these classes totalled 65 and were judged by Miss M. C. Taylor, Farm Institute, Cannington, Somerset; Mr. J. Benson, the selected judge, having died a few days before the Show opened.

Working Dairy was again under the control of Major A. H. Gibbs as Steward. Miss D. M. Peacock, Herts Institute of Agriculture, Oaklands, St. Albans, was Chief Assistant, and on her Staff were Miss W. Woods and Miss Learnmouth from the East Anglian Institute, Chelmsford. There were 63 entries, as against 41 last year: Watford is not a Dairy District and the strike prevented several entering who lived at a distance. Miss E. Bray, Chief Dairy Instructress for Devon, judged the Competitions, and reported very favourably on the general excellence of the work and especially in the Champion Medal Class, for which there were 14 entries. The Gold Medal was won by Miss J. James, who took the Silver Medal last year; the Silver Medal went to Miss R. E. Mitchell, who last year took the Bronze Medal; and the Bronze Medal was won by Miss E. J. Edwards.

The attendance at the Working Dairy proved the interest taken by the visitors to the Show, in both the Butter-making Competitions, and also in the Demonstrations given by Miss Peacock and her Staff in the making of Cream Cheese ; Gervais Cheese ; Coulomnier Cheese ; Scalded Cream ; Junkets and also the Testing of Milk, and the proper method of Butter-making.

The Cream for the Working Dairy was obtained for the most part from the West Cornwall Creameries, Ltd., Lelant, Cornwall, and was of a high standard and delivered punctually. The ice was provided by the Hertfordshire Ice Company, Watford.

TESTS SECTION.

The cows in the Milking Trials and Butter Tests were weighed on the evening of the first day and divided into two classes : those under 950 lbs. live weight being placed in one class and those 950 lbs. and over in the other.

The cows were stript at 5 p.m. on the second day and milked at 7 a.m. and 5 p.m. on the third day, second milkers being taken half an hour later on each occasion.

MILKING TRIALS.

There were 64 entries for these Classes, but of these 24 were absent, chiefly in consequence of the strike. Of the 40 left 22 were in Class 156, under 950 live weight ; and 18 in Class 157. 950 lbs. and over.

The milks were weighed in the yard and taken at once to the test room where they were tested by Mr. R. J. Kerr, Secretary to the Somerset and North Dorset Milk Recording Association, Yeovil. The Gerber Tester was used, and 4ozs. milk were taken at each milking for samples.

The points given were on the same basis as last year : --One point for each pound of milk ; and one point for each pound of milk required to make up the quantity of milk required with a 3 per cent. B.F. to make up the B.F. actually given by the cow. Where the B.F. actually given was below 3 per cent. average, points on a similar basis were deducted.

Cows giving milk below 3 per cent. B.F. at either milking were "disqualified."

The Tables on pages 88—89 give the results of the Milking Trials.

MILK TESTS.

No.	Exhibitor and Cow.	Breed.	Date of Birth.	Date of last Calf.
CLASS 156				
675	L. Currie, "Minley Miranda"	Kerry	10/12/21	19/5/26
678	Kerry Estates Ltd.	Kerry	18/3/21	16/5/26
695	T. A. Stephens, "Just Found of Hookstile"	Dexter	2/3/19	10/9/25
733	H. F. Earl, "Bridesmaid"	Dexter	1913	5/4/26
734	H. F. Earl, "Charlewood"	Dexter	1/10/18	15/2/26
737	Mrs. H. P. May, "Barbara"	Dexter	1915	15/4/26
517	Mrs. O. Ames, "Fairy Winks"	Jersey	4/12/17	13/2/26
518	Mrs. O. Ames, "Polder's Lass"	Jersey	23/2/22	14/1/26
521	G. Berry, "Postmistress"	Jersey	23/1/22	7/1/26
522	Mrs. H. Briggs, "Volunteer's Remembrance 3rd"	Jersey	24/7/22	31/3/26
532	J. P. Morgan, "Rapkyns Perfection" ..	Jersey	19/4/21	3/4/26
534	H. C. Pelly, "Wotton Boveau"	Jersey	13/9/19	13/3/26
535	The Earl of Strafford, "Fauvie's Flower"	Jersey	7/7/21	20/2/26
536	The Earl of Strafford, "Fontain's Bud"	Jersey	28/1/19	15/9/25
537	L. E. Tubbs, "Glenny"	Jersey	26/6/18	6/5/26
540	R. Bruce Ward, "Progress"	Jersey	4/7/18	15/2/26
545	G. Berry, "Last of the Tendas"	Jersey	20/1/18	2/2/26
735	Major A. W. Huntington, "Marriettes Violet"	Jersey	23/7/17	11/4/26
736	Capt. F. B. Imbert-Terry, "Blue Hayes Buff"	Jersey	2/2/20	5/10/25
596	W. Dunkels, "Downe Pearl 4th"	Guernsey	9/11/22	25/2/26
603	Viscount Lascelles, "Nellie Lubins Sequel IV"	Guernsey	23/2/21	1/4/26
613	Mrs. Jervoise, "Joyce 4th of the Marette"	Guernsey	8/7/23	24/3/26
CLASS 157				
331	E. Furness, "Hamels Christmas Daisy" ..	B. Friesian	30/12/20	24/3/26
341	A. Weightman, "Hedges Blesrigg Princess 4th"	B. Friesian	20/1/20	1/5/26
342	W. G. White & Sons, "Tynside Ruby 2nd"	B. Friesian	7/8/16	26/2/26
739	G. Holt Thomas, "Northdean Princess May"	B. Friesian	18/3/21	10/5/26
429	Viscount Folkestone, "Longford Duck" ..	Red Poll	12/9/21	8/4/26
430	Mrs. R. M. Foot, "White Hill Molly" ..	Red Poll	26/8/19	27/4/26
432	Major. J. A. Morrison, "Sudbourne Comfit"	Red Poll	10/8/16	10/4/26
453	Little Green Estates Co., "Doli"	Wsh. Black	22/1/17	20/4/26
494	A. T. Greenslade, "Walden Princess" ..	Blue Albion	7/20	19/4/26
523	Mrs. H. Briggs, "Lily of the Valley" ..	Jersey	26/10/17	2/10/25
528	Mrs. Hayes Sadler, "Eastfield Lady" ..	Jersey	5/10/19	11/3/26
529	Mrs. Hayes Sadler, "Mademoiselle du Grand Jardin"	Jersey	13/1/19	31/3/26
594	A. C. Beatty, "Mallett's Dolly 2nd" ..	Guernsey	27/8/22	7/3/26
597	C. C. Empson, "Merton Colinette" ..	Guernsey	9/6/22	19/4/26
598	Sir W. H. N. Goschen, "Durrington Smilax 3rd"	Guernsey	5/12/21	25/2/26
615	Viscount Lascelles, "Goldsborough Lady I"	Guernsey	23/1/23	5/4/26
732	Major J. H. Drake, "Ravenscroft Tisland Maid IV"	Guernsey	31/5/19	27/12/25
740	A. C. Beatty, "Favourite 2nd of Woodlands"	Guernsey	13/3/19	7/4/26
Special Prize offered by British Friesian Society.				
No AWARD				

Dexter Challenge Cup. No. 733, "Bridesmaid."—Reserve No. 734, "Charlewood."
 Kerry Challenge Cup. No. 678 (Kerry Estates Ltd.).—Reserve No. 675, "Minley Miranda."

MILK TESTS.

No. of days in Milk	Yield of Milk.			Butter Fat.		Points.			Total.	Award.	
	Morning.	Evening.	Total.	Morn- ing.	Even- ing.	Lacta- tion.	Milk.	B.F.			
7	22 4	17 10	39 14	3.1	4.0	Nil	39.87	6.5	46.37	Third Prize.	
10	31 4	22 0	53 4	4.3	4.8	Nil	53.25	26.7	79.95		
258	7 0	5 4	12 4	3.1	4.3	12.0	12.25	2.5	26.75		
51	24 6	16 4	40 10	3.2	3.7	1.1	40.62	5.4	47.12		
100	18 12	8 2	26 14	4.6	3.5	6.0	26.87	11.3	44.17		
41	27 14	22 12	50 10	2.2	3.4	.1	50.62	4.4	46.32	Disqualified Disqualified H.C. Reserve.	
102	24 12	18 10	43 6	2.9	5.1	6.2	43.37	12.2	61.77		
132	19 8	14 4	33 12	4.3	5.9	9.2	33.75	22.1	65.05		
139	28 6	19 4	47 10	3.8	4.6	9.9	47.62	17.7	75.22		
56	17 0	12 10	29 10	3.9	5.2	1.6	29.62	14.3	45.52		C.
53	21 0	13 14	34 14	4.3	5.5	1.3	34.87	20.6	56.77		
74	25 8	17 0	42 8	3.1	5.4	3.4	42.50	14.4	60.3		
95	20 0	15 4	35 4	3.6	5.2	5.5	35.25	15.2	55.95		
253	10 12	8 0	18 12	4.7	5.5	12.0	18.75	12.7	43.45		
20	21 0	17 6	38 6	3.6	6.0	Nil	38.37	21.6	59.97	First Prize. Disqualified Second Prize.	
97	25 14	19 4	45 2	4.2	9.0	5.7	45.12	48.8	99.62		
113	17 8	13 6	30 14	2.7	5.8	7.3	30.87	10.8	48.97		
45	30 0	21 8	51 8	4.2	6.6	.5	51.50	37.8	89.8		
233	15 10	12 0	27 10	3.4	6.5	12.0	27.62	16.1	55.72		
90	18 6	13 2	31 8	4.5	5.8	5.0	31.50	21.4	57.90		
55	21 4	17 0	38 4	3.1	4.8	1.5	38.25	10.9	50.65		
63	21 0	15 2	36 2	3.2	4.4	2.3	36.12	8.4	46.82		
63	35 0	24 8	59 8	2.8	3.9	2.3	59.50	5.0	66.8		Disqualified
25	30 12	22 8	53 4	2.6	3.7	Nil	53.25	1.1	54.35		Disqualified
89	31 4	21 12	53 0	2.1	3.4	4.9	53.00	6.5	51.4	Disqualified	
16	43 0	36 6	79 6	1.9	4.1	Nil	79.37	2.5	76.87	Disqualified Third Prize First Prize Disqualified	
48	25 0	17 2	42 2	3.9	5.5	.8	42.12	21.8	64.72		
29	33 8	25 4	58 12	3.1	5.0	Nil	58.75	17.9	76.65		
46	26 4	20 6	46 10	2.7	4.6	.6	46.62	8.2	55.42		
36	25 2	17 6	42 8	3.0	3.5	Nil	42.50	2.9	45.4		
37	25 8	18 4	43 12	3.0	4.2	Nil	43.75	7.3	51.05	C. C.	
236	16 8	12 10	29 2	4.9	5.9	12.0	29.12	22.6	63.72		
76	25 4	18 6	43 10	3.5	4.6	3.6	43.62	14.0	61.22		
56	18 8	14 4	32 12	3.7	5.0	1.6	32.75	13.8	48.15		
80	26 0	21 10	47 10	2.7	4.3	4.0	47.62	6.8	58.42		
37	20 0	15 14	35 14	3.3	6.1	Nil	35.87	18.4	54.27	Disqualified	
90	16 12	12 0	28 12	3.7	5.3	5.0	28.75	13.1	46.85		
51	21 12	17 8	39 4	3.1	5.0	1.1	39.25	12.3	52.65		
150	24 8	15 4	39 12	3.8	4.5	11.0	39.75	14.1	64.85		Second Prize
49	25 14	19 0	44 14	3.7	5.0	.9	44.87	18.6	64.37		Reserve.

BUTTER TEST.

PARTICULARS OF COWS TESTED, YIELDS OF MILK AND BUTTER, AWARDS, ETC.

No.	Exhibitor and Cow.	Breed.	Date of Birth.	Date of Last Calf.
CLASS 158				
678	Kerry Estates Ltd.	Kerry	18/3/21	16/5/26
734	H. F. Earl, "Charlewood"	Dexter	1/10/18	15/2/26
517	Mrs. O. Ames, "Fairy Winks" . . .	Jersey	4/12/17	13/2/26
518	Mrs. O. Ames, "Polder's Lass" . . .	Jersey	23/2/22	14/1/26
521	G. Berry, "Postmistress"	Jersey	23/1/22	7/1/26
522	Mrs. H. Briggs, "Volunteer's Remembrance 3rd"	Jersey	24/7/22	31/3/26
532	J. P. Morgan, "Rapkyns Perfection" . .	Jersey	19/4/21	3/4/26
533	H. S. Mountain, "Sweetbread 49th" . .	Jersey	4/8/19	4/4/26
534	H. C. Pelly, "Wotton Boveau" . . .	Jersey	13/9/19	13/3/26
535	The Earl of Strafford, "Fauvic's Flower"	Jersey	7/7/21	20/2/26
536	The Earl of Strafford, "Fontain's Bud"	Jersey	28/1/19	15/9/25
537	L. E. Tubbs, "Glenny"	Jersey	26/6/18	6/3/26
538	Sir C. Walston, "Newton Geraldine 4th"	Jersey	4/3/22	18/3/26
540	R. Bruce Ward, "Progress"	Jersey	4/7/18	18/2/26
545	G. Berry, "Last of the Tendras" . . .	Jersey	20/1/18	2/2/26
735	Major A. W. Huntington, "Mariettes Violet"	Jersey	23/7/17	11/4/26
736	Capt. F. B. Imbert-Terry, "Blue Hayes Buff"	Jersey	2/2/20	5/10/25
596	W. Dunkels, "Downe Pearl 4th" . . .	Guernsey	9/11/22	25/2/26
603	Viscount Lascelles, "Nellie Lubins Sequel IV"	Guernsey	23/2/21	1/4/26
605	Messrs. C. Norman, "Hadham Snowdrop"	Guernsey	25/4/20	23/4/26
613	Mrs. Jervoise, "Joyce 4th of the Marett"	Guernsey	8/7/23	24/3/26
CLASS 159				
331	E. Furness, "Hamels Christmas Daisy"	B. Friesian	30/12/20	24/3/26
341	A. Weightman, "Hedges Blesrigg Princess 4th"	B. Friesian	20/1/20	1/5/26
342	W. G. White & Sons, "Tynside Ruby 2nd"	B. Friesian	7/8/16	26/2/26
739	G. Holt Thomas, "Northdean Princess May"	B. Friesian	18/3/21	10/5/26
429	Viscount Folkestone, "Longford Duck"	Red Poll	12/9/21	8/4/26
430	Mrs. R. M. Foot, "White Hill Molly" . .	Red Poll	26/8/19	27/4/26
432	Major J. A. Morrison, "Sudbourne Comfit"	Red Poll	10/8/16	10/4/26
453	Little Green Estates Co., "Doli"	Welsh B'ek	22/1/17	20/4/26
523	Mrs. H. Briggs, "Lily of the Valley" . .	Jersey	26/10/17	2/10/25
528	Mrs. Hayes Sadler, "Eastfield Lady" . .	Jersey	5/10/19	11/3/26
529	Mrs. Hayes Sadler, "Mademoiselle du Grand Jardin"	Jersey	13/1/19	31/3/26
594	A. C. Beatty, "Mallett's Dolly 2nd" . .	Guernsey	27/8/22	7/3/26
595	E. Christian, "Dene Maid of Wargrave"	Guernsey	25/1/19	15/1/26
597	C. C. Empson, "Merton Colinette" . . .	Guernsey	9/6/22	19/4/26
598	Sir W. H. N. Goschen, "Durrington Smilax 3rd"	Guernsey	5/12/21	25/2/26
600	Sir E. Hambro, "Hayes Lola 1st" . . .	Guernsey	26/4/17	6/1/26
608	A. C. Beatty, "Calehill Peaceful" . . .	Guernsey	14/2/23	23/7/25
615	Viscount Lascelles, "Goldborough Lady I"	Guernsey	23/1/23	5/4/26
732	Major J. H. Drake, "Ravenscroft Tisland Maid IV"	Guernsey	31/5/19	27/12/25
740	A. C. Beatty, "Favourite 2nd of Woodlands"	Guernsey	13/3/19	7/4/26

BUTTER TEST.

PARTICULARS OF COWS TESTED, YIELDS OF MILK AND BUTTER, AWARDS, ETC.

No. of days in Milk	Milk yield in 24 hours.		Butter yield.	Ratio viz., lbs. Milk to lbs. Butter	Points.			Award.
					Lactation.	Butter.	Total.	
	lbs. ozs.	lbs. ozs.						
10	53 4	2 10½	20.26	Nil	42.25	42.25		
100	26 14	1 2½	22.93	6.0	18.75	24.75		
102	43 6	1 13½	23.93	6.2	29.25	35.45		C.M.
132	33 12	1 14½	17.70	9.2	30.50	39.70		C.M.
139	47 10	2 2½	21.64	9.9	34.75	44.65		Second Prize & Silver Medal
56	29 10	1 5½	21.79	1.6	21.75	23.35		
53	34 14	1 11½	20.47	1.3	27.25	28.55		
52	38 6	2 3½	17.41	1.2	35.25	36.45		C.M.
74	42 8	1 14½	22.11	3.4	30.75	34.15		
95	35 4	1 12½	19.96	5.5	28.25	33.75		C.M.
253	18 12	1 0	18.75	12.0	16.0	28.0		
20	38 6	1 13½	20.99	Nil	29.25	29.25		
69	37 4	2 8	14.90	2.9	40.0	42.9		Reserve C.M.
97	45 2	2 14	15.70	5.7	46.0	51.7		First Prize & Gold Medal
113	30 14	1 4½	23.80	7.3	20.75	28.05		
45	51 8	2 11	19.16	.5	43.0	43.5		Third Prize and Bronze Medal
233	27 10	1 7	19.21	12.0	23.0	35.0		C.M.
90	31 8	1 10½	19.00	5.0	26.5	31.5		
55	38 4	1 10½	23.31	1.5	26.25	27.75		
33	43 8	1 9	27.84	Nil	25.0	25.0		
63	36 2	1 6½	25.40	2.3	22.75	25.05		
63	59 8	1 9½	37.70	2.3	25.25	27.55		
25	53 4	1 14½	27.70	Nil	30.75	30.75		
89	53 0	1 1½	47.77	4.9	17.75	22.65		
16	79 6	2 2½	36.80	Nil	34.75	34.75		Reserve
48	42 2	2 1½	19.97	.8	33.75	34.55		
29	58 12	2 6½	24.25	Nil	38.75	38.75		Third Prize.
46	46 10	1 10½	28.41	.6	26.25	26.85		
36	42 8	1 8½	28.04	Nil	24.25	24.25		
236	29 2	1 11½	16.94	12.0	27.50	39.50		Second Prize and C.M.
76	43 10	1 11½	25.61	3.6	27.25	30.85		
56	32 12	1 9½	20.35	1.6	25.75	27.35		
80	47 10	1 14½	24.98	4.0	30.50	34.50		
131	37 6	1 15	19.29	9.1	31.0	40.1		First Prize and Guernsey £5 Prize
37	35 14	1 8½	23.19	Nil	24.75	24.75		
90	28 12	1 4½	22.16	5.0	20.75	25.75		
140	33 12	1 7½	22.97	10.0	23.50	33.50		
307	Absent							
51	39 4	1 12½	22.03	1.1	28.50	29.60		
150	39 12	1 8	27.07	11.0	24.0	35.0		
49	44 14	2 1½	21.59	.9	33.25	34.15		

GOAT MILK QUALITY TESTS.

No.	Exhibitor and Goat.	Breed.	Date of Birth.	Date of Last Kid.
CLASS 199.				
918	Mrs. F. J. Browell, "Feltham Esmeralda"	British Alpine	1/3/24	19/3/26
919	Mrs. F. J. Browell, "Pastime of Bashley"	British Alpine	14/2/21	20/2/26
920	Miss C. Chamberlain, "Wistful of Westons"	British Toggenburg	7/2/21	30/3/26
923	Miss E. M. Pope, "Playfellow of Bashley"	British Toggenburg	25/4/24	27/3/26
924	Miss E. M. Pope, "Player of Bashley"	British Toggenburg	6/4/23	17/3/26
925	Miss K. Pelly, "Theydon Bettina"	Anglo Nubian	19/3/23	12/4/26
927	Miss K. Pelly, "Theydon Almond"	Anglo Nubian	26/2/22	6/4/26
931	Miss E. Skidmore, "Heddon Speedwell"	British Saanen	10/3/20	3/1/26
932	Miss E. Skidmore, "Heddon Sainfoin"	British Saanen	4/3/21	27/2/26
934	Miss J. Tillard, "Promise of Bashley"	British Saanen	7/3/18	17/4/26
955	Miss J. Port, "Heddon Superb"	British Saanen	11/5/23	18/3/26
956	Miss J. Tillard, "Hamwood Quenried"	British Alpine	28/3/24	22/4/26

Challenge Certificate for the best Dual Purpose Goat over Two years.

No. 919. "Pastime of Bashley"—Total Points, 29.43. Challenge Certificate.

No. 924. "Player of Bashley"—Total Points, 29.37.

GOAT MILK TESTS.

No.	Exhibitor and Goat.	Breed.	Date of Birth.	Date of Last Kid.
CLASS 200				
918	Mrs. F. J. Browell, "Feltham Esmeralda"	British Alpine	1/3/24	19/3/26
919	Miss F. J. Browell, "Pastime of Bashley"	British Alpine	14/2/21	20/2/26
920	Miss C. Chamberlain, "Wistful of Westons"	British Toggenburg	7/2/21	30/3/26
921	Mrs. Morcom, "Berones"	British Toggenburg	23/3/20	1/4/26
923	Miss E. M. Pope, "Playfellow of Bashley"	British Toggenburg	25/4/24	27/3/26
924	Miss E. M. Pope, "Player of Bashley"	British Toggenburg	6/4/23	17/5/26
929	Miss J. Port, "Wells Pearl"	British Saanen	1/4/24	27/3/26
930	Miss J. Port, "Atherstone Sheila"	British Saanen	14/3/24	15/3/26
932	Miss E. Skidmore, "Heddon Sainfoin"	British Saanen	4/3/21	27/2/26
933	Miss E. Skidmore, "Heddon Spot"	British Saanen	27/5/23	29/3/26
934	Miss J. Tillard, "Promise of Bashley"	Large Horned	7/3/18	17/4/26
955	Miss J. Port, "Heddon Superb"	British Saanen	11/5/23	18/3/26
956	Miss J. Tillard, "Hamwood Quenried"	British Alpine	28/3/24	22/4/26
957	Miss E. Skidmore, "Heddon Supreme"	White	11/5/23	27/2/26

GOAT MILK QUALITY TESTS.

No. of days in Milk.	Milk Yield in 24 hours.		Butter Fat Percentage.		lbs. Butter Fat.	Points.			Total.	Award.
	lbs	ozs.	a.m.	p.m.		Lactation.	Butter Fat.	Milk Yield.		
68	7	13	3.6	4.8	.32	.4	6.4	7.81	14.61	Second Prize
95	9	15	7.1	7.1	.705	.9	14.1	9.93	24.93	
57	13	8	3.0	4.1	.48	.2	9.6	13.50	23.30	
60	11	14	4.0	4.5	.50	.3	10.0	11.87	22.17	
9	12	14	6.0	4.1	.65	Nil	13.0	12.87	25.87	First Prize.
44	7	1	5.4	5.4	.38	Nil	7.6	7.06	14.66	
50	8	14	3.8	4.4	.36	.1	7.2	8.87	16.17	
143	6	0	3.9	3.9	.23	1.7	4.6	6.0	12.30	2 points deducted, deficient B.F.
88	9	1	3.2	3.3	.29	.8	5.8	9.06	15.66	
39	5	5	3.2	4.1	.19	Nil	3.8	5.31	9.11	
69	11	7	2.0	1.9	.22	.4	4.4	11.43	14.23	
34	7	3	3.6	3.7	.26	Nil	5.2	7.18	12.38	

GOAT MILK TESTS.

No. of days in Milk.	Yield of Milk.			Total.	Points.			Award.
	Morning.	Evening.	Morning.		Lactation.	Milk.	Total.	
	lbs. ozs	lbs. ozs.	lbs. ozs.					
68	4 1	3 12	3 14	11.11	.4	11.68	12.08	First Prize.
95	5 2	4 13	4 13	14.12	.9	14.75	15.65	
57	7 2	6 6	7 4	20.12	.2	20.75	20.95	
55	3 10	3 6	3 10	10.10	.2	10.62	10.82	
60	5 12	6 2	5 11	17.9	.3	17.56	17.86	Third Prize.
9	6 3	6 11	6 4	19.2	Nil	19.12	19.12	Second Prize.
60	4 10	4 2	4 9	13.5	.3	13.31	13.61	
72	3 7	3 0	3 1	9.8	.5	9.5	10.00	
88	4 10	4 7	4 5	13.6	.8	13.37	14.17	Reserve.
58	3 14	3 13	3 12	11.7	.3	11.43	11.73	
39	2 13	2 8	2 10	7.15	Nil	7.93	7.93	
69	6 0	5 7	5 13	17.4	.4	17.25	17.65	
34	3 9	3 10	3 12	10.15	Nil	10.93	10.93	Reserve.
88	4 10	4 14	4 15	14.7	.8	14.43	15.23	

The average of the yields of the various breeds, together with their average days in milk and average B.F. in these Classes, is as follows :—

<i>Breed.</i>	<i>No.</i>	<i>Milk Yields.</i>		<i>Days in Milk.</i>	<i>B. F.</i>	
		<i>lb.</i>	<i>ozs.</i>		<i>M. p.c.</i>	<i>E.p.c.</i>
Jerseys	16	36	8.75	111.25	3.8	5.74
Guernseys	9	38	0	73.88	3.45	5.02
British Friesians	4	61	4.5	48.25	2.35	3.77
Red Polls	3	40	2.6	41.0	3.23	5.03
Kerrys	2	46	9	8.5	3.7	4.4
Dexter	4	32	9.5	112.5	3.27	3.75
Blue Albion	1	43	12	37.0	3.0	4.2
Welsh Black	1	42	8	36.0	3.0	3.5

BUTTER TEST.

Fifty-Five Cows entered for the Test, but of these 14 were absent and one was withdrawn, leaving 40 to compete ; of these 21 were in Class 158, cows under 950 lbs. live weight ; and 19 in Class 159, 950 lbs. and over. The milks were separated after each milking, and the creams were churned on the following day. Churning commenced at 7.26 a.m., and finished at 10.49 a.m. ; the periods for churning varied from 11 minutes to 58 minutes, with the exception of one cream, which took 1 hour 42 minutes. Miss Taylor supervised the preparation of the creams, which were all churned at 54°, and the churning.

In the case of cows, whose milks had been taken for samples in the "Milking Trials," an allowance of $\frac{1}{2}$ oz. was made in the butters of animals showing an average of 5 per cent B.F. and over on the two milkings, and $\frac{1}{4}$ oz. where the B.F. was below 5 per cent. average.

The Tables on pages 90—91 give the results.

The average results for each breed were as follows :—

<i>Breed.</i>	<i>No.</i>	<i>Days in Milk.</i>	<i>Milk.</i>		<i>Butter.</i>	<i>Milk Ratio to</i>	
			<i>lbs.</i>	<i>ozs.</i>		<i>lbs. ozs.</i>	<i>1 lb Butter.</i>
Jerseys	18	105.06	36	11	1	13.60	19.77
Guernseys	12	80.75	38	8.3	1	10.39	23.08
B. Friesians	4	48.25	61	4.5	1	11.125	39.19
Red Polls	3	41.0	49	2.6	2	0.91	23.9
Kerrys	1	10.0	53	4	2	10.25	20.26
Dexter	1	100.0	26	14	1	2.75	22.93
Welsh Black	1	36.0	42	8	1	8.25	28.04

Besides the prizes given by the Society for these Classes, special prizes were given by the English Jersey Cattle Society, gold, silver and bronze medals : and a prize of £5 by the English Guernsey Cattle Society, to be competed for by animals in their respective breeds.

SALES OF PRODUCE SECTION.

The price given for the Milk produced in the Show Yard and sold to the Society was fixed at 8d. per gallon. Owing to the small attendance at the Show, the sales at the Pavilion did not give as good a return as usual, but all the butters and prize cheeses were disposed of at satisfactory prices, and a fair amount of cream for the Working Dairy was obtained from the surplus milk. The Pavilion was under the charge of Miss M. C. Taylor, who was ably supported by her assistants Miss E. Masters and Miss Mackie.

MILKING COMPETITIONS.

It has been a disappointment to the Society to find so few willing to enter for these competitions, and especially was this the case at this Show, and the one at Maidstone. Not only are good prizes offered, but the competitors have also an opportunity for getting advice on the best methods for milking from judges of the highest standard : and in Mr. A. Todd, British Dairy Institute, Reading, who judged these competitions, they had perhaps the best authority and instructor on this important branch of Dairy Work that can be found. There were only 10 entries for the three classes : the largest being six for men. The judge expressed himself satisfied with the work done and regretted the small number of entries. The cows were milked in the Show Yard and supplied by Mr. Crumpler, from an adjoining farm. Mr. G. N. Rawlence was the steward in charge of these competitions and we have also to thank Mr. Gibbons for the assistance he gave us in obtaining the use of Mr. Crumpler's cows. Mr. Gibbons is a son of the late Mr. G. Gibbons, who was for very many years Dairy Steward for the Society at their Shows, and we were glad to have a member of his family again associated with our Show.

My thanks are due to Miss Peacock and her staff for their assistance in the Dairy, and to Miss Taylor for not only her supervision over the Pavilion, but also for her valuable help in the Tests and generally at the Working Dairy. Captain Clive and Mr. Read again devoted their whole time to dealing with the purchase of milk and keeping the Pavilion supplied with Dairy Produce : which

entailed long hours, hard and rather monotonous work. Mr. G. N. Rawlence gave me most valuable assistance, especially at the Tests, and without his help I should have found it impossible to carry out my work as steward. Again I have to thank Mr. Kerr who gave his services free of charge in carrying out the testing of milk, and the Somerset and North Dorset Milk Recording Association, for allowing us to make use of his services.

GOATS MILKING CLASSES.

There were two classes for Goats : Class 199 for quality (butter fat only) and quantity, with points for lactation ; Class 200 for quantity only, with points for lactation. For Class 199, five points are given for each $\frac{1}{4}$ lb. of fat and one point for each 1 lb. milk : for Class 200 one point for each 1 lb. milk ; in both cases less quantities were calculated to the second decimal. For lactation .1 points are given for each completed six days after the first 40 days from "kidding." 1 point deducted in each milking where B.F. is below 3 p.c.

For Class 199 there were 14 entries, but one was absent, and one was withdrawn. For Class 200 15 goats entered, but one was absent.

For the "quality" competition, Class 199, there were two milkings ; for the "quantity" alone, Class 200, three milkings were required. All the goats were milked out at 6.30 p.m. on the first day ; Classes 199 and 200 were milked at 6.30 a.m. and 6.30 p.m. on the second day, and Class 200 again at 6.30 a.m. on the third day.

All the milks were weighed in the Shed at the milkings, and from those in Class 199 samples were taken and tested by the Gerber Tester in the Test Room, for Butter Fat.

The Tables on pages 92—93 give the results.

In addition a "Challenge Certificate" was given to the Best Dual Purpose Goat over two years, the points awarded in the Inspection Class being added to those awarded in Class 200.

This Certificate was won by Mrs. F. J. Browell's goat "Pastime of Bashley" with 29.43 points ; Miss E. M. Pope's goat "Player of Bashley" being reserve with 29.37 points.

Mr. G. N. Rawlence gave valuable assistance in working out the results of these competitions.

CLEAN MILK DEMONSTRATIONS.

The University College, Reading, again sent representatives to give these Demonstrations which were well attended and of much value to milk producers. Principal J. Hunter Smith, Hertfordshire Institute of Agriculture, Oaklands, kindly made arrangements for the provision of two cows and also a milker ; the importance of these demonstrations at our Shows can hardly be over-estimated.

The Society is indebted to Messrs. E. S. Hindley and Son for the provision of a boiler to supply hot water to the Working Dairy free of cost. They also had on exhibition, close to their boiler, a very complete plant for Sterilizing Dairy Vessels for clean milk production.

I cannot close this report without expressing the thanks of the Stewards of the Dairy Department, to our Superintendent of Works Mr. H. C. Ayre and the Yard Stewards, for the provision of such a convenient Working Dairy. A prominent member of the Council of the largest Agricultural Society, who has had charge of the Dairy Department of that Society for the last 30 years, when he saw our "Dairy," said that for planning and convenience it was the best he had ever seen at any Show ; all of us who are connected with the Dairy quite endorse that opinion.

ARTHUR F. SOMERVILLE.

IX.—FORESTRY SECTION.

By Godfrey Lipscomb, Steward.

The Forestry Section at Watford was small, and there were—owing to the locality—no local entries, but what was lacking in quantity was made up in quality, for the exhibits were very good of their kind. The Forestry Commission as usual sent an excellent and comprehensive exhibit, illustrating the growth and activity of the Commission—several excellent models of labour-saving appliances and improvement in method. An interesting novelty was the process of manufacture of artificial silk from spruce wood pulp. The Surveyor's Institute, represented by Mr. Le Sueur, sent a first-rate exhibit, devoting the whole of their space to the timber of one

variety of tree—the Ash. Ash timber of varying quality was shown with full explanatory notes, which should prove of considerable use to the growers of timber. Mr. Le Sueur had been to some trouble to collect references to Ash Timber from old books, specifications, etc., and these are so much to the point that I must quote them:—Taken from Fitzherbert, 1534, “Sell the small Ash to Coopers for hoops and the great Ash to Wheelwrights and the mean Ash to Ploughwrights.”—From “The Art of Warre,” 1610, “We this day preferre the Ash before all woods for toughness, lightnesse and for strength, especially if the vein run through to the ende.”—Again in a specification for pikes, 1645, “The Ash to be strong and straight it must be nimble”—nimble is an excellent word for it expresses very well the spring one feels in a good ash staff. Lastly what Mr. Le Sueur describes as “Mother’s motto” is full of sound sense, “Large Ash generally means *old* Ash, old Ash means *bad* Ash; 55 years is old enough for any tree, 16 inches is wide enough for any plank.” An excellent exhibit, well illustrating the invaluable uses of Ash and showing by specimens the many virtues; and also the faults that may occur owing to age, damage, unsuitable soil, etc., such as black heart which renders the timber brittle and unsuitable for high-class trade purposes. It is stated that 93 cubic feet of ash are required to make the body of a general omnibus. An interesting exhibit was sent by the Cambridge School of Forestry, owing to transport difficulty it had to be sent by motor car, an effort to stage their exhibit at the proper time that was appreciated by the Forestry Committee of our Society. Messrs. Constance again sent a large and most comprehensive exhibit of the articles, handles, etc., that they make from the varieties of timber—some 20—that they use. Sycamore, lime, yew, maple, chestnut, willow, hazel, alder, dogwood, aspen, mountain ash, wych elm, ash, black birch, silver birch, oak, cherry, poplar, etc., of many of these specimens of the wood in the rough—sections 4 or 5 inches in diameter—were sent to show the size of timber used. The thanks of the Society are due to the Hertfordshire County Council for placing the services of Mr. C. E. Hudson, the Horticultural Instructor for Hertfordshire and Mr. R. Keene, Assistant Instructor, at the disposal of the Society, their talks and demonstrations of pruning etc., were excellent and well attended.

Mr. H. A. Pritchard acted as judge of the Forestry Section, and our thanks are due to him also for his services.

X.—AGRICULTURAL EDUCATION AND RESEARCH

AND

RURAL EDUCATION AND HANDICRAFTS.

By Messrs. H. M. Cundall and A. L. Hobhouse.

AGRICULTURAL, EDUCATION AND RESEARCH.

THE HERTFORDSHIRE INSTITUTE OF AGRICULTURE, "Oaklands," St. Albans. An exhibit of considerable interest was staged by this Institute. It was admirably arranged, well labelled and self-explanatory.

The chief sections were :—

- (a) The aims and work of the Institute.
- (b) Exhibits from the following sections :—Agriculture, Horticulture, Poultry Keeping, Dairying.

The *Aims and Work of the Institute* were demonstrated by photographs and charts illustrating the growth and development of the Farm Institute and its various departments, also by maps showing the work done in the County, and the varied activities and interests of rural life.

Agriculture Liming.

A great diversity of soils is found in Hertfordshire. In some areas poverty and infertility are associated with a shortage of lime, in others deficiency of lime is confined to certain fields or parts of fields. The exhibit on this question showed that samples of soil from an area of no less than 12,000 acres in Hertfordshire, have recently been examined, and that quite a large proportion of this area is suffering from a shortage of lime. Farmers in the County can have their soils tested by the Institute staff so that they may know when and where to spend money on lime and where liming is not required.

Baby Beef Production.

One of the outstanding features in stock farming to-day is the demand for early maturity. In the case of mutton and pork, the farmer has now conformed to the new standards, but much progress has still to be made with beef. This subject was well presented by an exhibit of joints of meat, three from a young animal 1½ years

old, reared and fed at the Institute, and three similar joints from a three-year-old beast. Farming opinion may differ on the merits of these two types of beef, but there is no doubt that the smaller joints met the public demand.

At "Oaklands" baby beef is produced at a profit on a milk selling farm, with Dairy Shorthorn calves receiving as calves no more than 25 gallons of whole milk each, and results should be still better under more favourable conditions.

Grassland Improvement.

The essential requirements for the improvement of grassland were illustrated by three turves representing areas from the grass at "Oaklands."

Turf 1.—From the untreated area—a poor turf typical of the condition of the whole park four years ago.

Turf 2.—From an area which had been manured with phosphates but inadequately grazed.

Turf 3.—From the main park, the whole of which was manured with 5 cwts. of Ground Mineral Phosphates per acre, in January, 1923, and has been well grazed with cattle and sheep each year.

The poverty of the original pasture and the effect of the manure is shown by the following figures:—

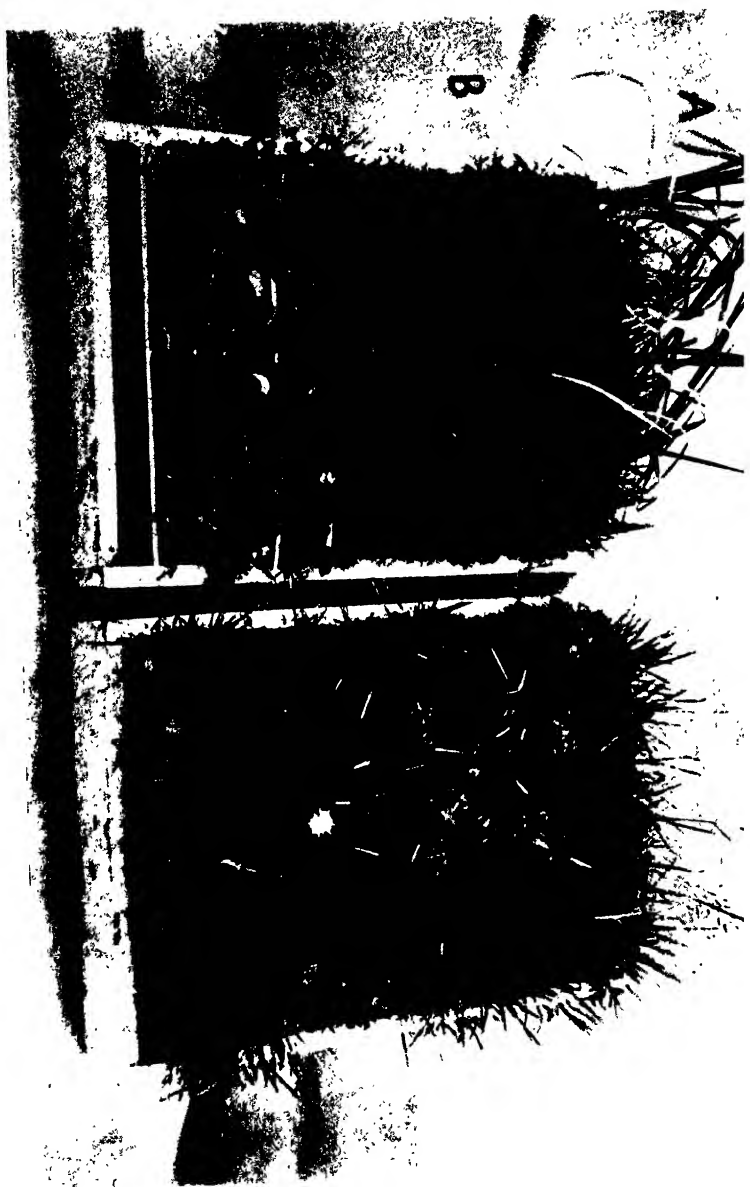
Untreated, 7 cwts. hay per acre.

Manured, 21 „ „ „ „

More striking, however, were the differences revealed by the botanical analyses of these three areas, shown in the following table:—

PERCENTAGE COMPOSITION OF HERBAGE.

	Turf 1.	Turf 2.	Turf 3.
Good Grasses	0.5	14	21
Indifferent Grasses ..	64	37	30
Clovers	5	14	33
Herbs and Weeds	26	32	8
Space	4	3	4



TRF 1.



TURF 2.



TURF 3.—In each case the natural turf is shown on the right, and the analysed turf on the left.

Lucerne Inoculation.

A series of boxes with specimens of lucerne illustrated the beneficial effects which have been obtained from the inoculation of lucerne seed. A series of plots were sown in the Spring of 1925 under a cover crop of barley. In some plots lucerne was sown, in others small quantities of Wild White Clover, Cocksfoot, or Italian Rye Grass were included. The extraordinary benefits derived from inoculation were apparent in all the plots, and the results obtained from the first cut of green stuff, namely : --

Inoculated plots averaged	11 tons per acre
Uninoculated	8½

HORTICULTURE.

Plant Pests and Diseases.

The commoner plant troubles which affect the fruit grower and market gardener were shown divided into groups with the regulation methods of dealing with each group, viz. :—

Biting insects	-	stomach poison.
Sucking insects	-	contact wash.
Ground insects	-	cultivations, naphthalene, etc.
External Fungi	-	Liver of Sulphur, Bordeaux Mixture, etc.
Internal Fungi, e.g.,	Silver Leaf—latest recommendations.	

One or two pests or diseases were dealt with separately in detail, such as “Big Bud,” “Reversion.” Apple Scab and Apple Capsid Bug. The importance of efficient spraying of fruit trees was emphasized, as pests and diseases are mostly found on the twigs. The economic importance of spraying fruit trees in the winter with one of the tar-distillate washes to destroy aphid eggs, etc., was demonstrated by specimens and photographs.

Influence of Stocks.

Photographs were displayed showing the influences of “stock” on the subsequent growth and cropping of fruit trees, while methods of propagating stocks to ensure uniform vigour were also indicated.

Pruning.

The development of a young fruit tree was illustrated by specimen trees, branches and diagrams and a clear demonstration given of

the "wood" on older trees on which fruit is borne. This led to the demonstration of the principles of pruning.

On a fruit plot laid out by the Institute, demonstrations on pruning and grafting were given daily by the horticultural staff.

POULTRY KEEPING.

This exhibit was illustrated by sketches of the Poultry Plant at "Oaklands," of the Egg Laying Trials, Models were intermingled with advice on the care and feeding of birds or the marketing of eggs.

DAIRYING.

A small collection of cheese made by students completed the exhibits of the Hertfordshire Institute.

ROTHAMSTED. EXPERIMENTAL STATION, Harpenden, Herts. The exhibits chiefly consisted of (a) diagrams showing the development of technique in field experiments; (b) diagrams and examples of the effect of seed inoculation on lucerne; (c) model demonstrating the measurement of soil resistance to cultivation; (d) manuring of potatoes, shown by models and diagrams; (e) model of the Experimental Farm, and other instructive objects of interest to the farmer.

EAST ANGLIAN INSTITUTE OF AGRICULTURE, Chelmsford, Essex. Illustrations were shown of systematic feeding and management of dairy cows, rations for live-stock and a series of seed mixtures.

BRISTOL UNIVERSITY. Long Ashton Research Station. The exhibit of the Station illustrated points in connection with investigations which are in progress on the following subjects:—

1. The Control of Big Bud Disease in Black Currants.
2. The Control of "Reversion" in Black Currants.
3. The Effects of Environmental Conditions on the growth of various Fruit Plants.
4. The Development of the Strawberry Plant and Strawberry Diseases.
5. The Control of American Gooseberry Mildew.

1. *The Control of Big Bud Disease in Black Currants.* The action of sulphur in checking the migration of the mites from Big

Buds during Spring was shown by means of photographs. A bush was exhibited showing the control effected by spring washing with lime sulphur spray, including the slight burning effects on the foliage from spraying.

2. *The Control of Reversion in Black Currants.* By means of mounted leaves and of pickled specimens of flowers the two methods of identifying the disease in the field were shown. The manner in which the disease had spread in an experimental plantation at Long Ashton was shown by a chart.

It was clearly explained that there does not exist any cure for this very serious disease, but that much can be done to keep it in check by "roguing" methods—i.e.—by removing bushes showing reversion symptoms at an early stage and filling their places with healthy bushes. In order to succeed in controlling the disease the importance of indentifying its characters on the foliage and flowers was emphasised.

3. *The Effects of Environmental Conditions on the Growth of Various Fruit Plants.* This subject is being investigated at Long Ashton from two view points :—(1) the growth characters, etc., resulting from environmental factors ; (2) the relation between certain environmental factors and various diseases.

The first section of the exhibit was an illustration of the various effects produced on growth characters—shoot growth, root growth, blossoming and fruiting—of apples, black currants, gooseberries and strawberries—by deficiencies of certain of the essential elements—Nitrogen, Potassium, Phosphorus, Calcium, Magnesium—in the diets of the plants. The various features were shown by means of leaf mounts, photographs and charts.

In the second section the effects of acidity and alkalinity, on the development of the strawberry plant, were demonstrated. The pathological conditions were, (a) Leaf Scorch ; (b) Chlorosis ; (c) Die Back.

(a) Several points were illustrated in connection with Leaf Scorch by specimens or photographs, showing :—Affected leaves from various fruit plants—apples, black currants, gooseberries.

The production of Leaf Scorch in fruit trees resulting from deficiency in potash and its control by the use of potash manures.

The action of potash salts in aiding root growth in layered apple stocks. Certain of the stocks which throw out roots very slowly had failed to form healthy root systems when potash was deficient.

The production of Leaf Scorch in gooseberries by waterlogging.

The production of Leaf Scorch of apple trees resulting from unsuitable physical conditions of soils on two plantation areas. In one case the soil texture was too coarse and open to ensure an adequate water supply to the trees, whilst in the other the trees were unable to form healthy root systems owing to the impervious unweathered conditions of the subsoil material.

(b) In the section dealing with chlorosis, typical specimens of chlorotic apple foliage and the action of iron sulphate spray in overcoming the condition in apples were shown. It was pointed out that in this country chlorosis in plants is usually caused by the presence of a large percentage of carbonate of lime in the soil, and that in many cases where the condition occurs, it is often uneconomic to attempt its removal.

(c) In the section dealing with Die Back typical specimens of the disease were shown on apple and plum trees and on gooseberry bushes, whilst the production of the condition by various methods was illustrated, the following being the most important :—Potash starvation leading to failure of adequate root development in certain varieties of apples on certain root stocks—the photographs displayed should Die Back developed on the varieties, Cox's Orange Pippin and James Grieve, worked on Malling Type XII. stock (weakly growing varieties on a slow rooting stock).

Waterlogging, "Die Back," was shown to have developed on a gooseberry bush after being subjected to waterlogging treatment.

Checking root activity : photographs of plum trees of several varieties, on several stocks, were shown on which "Die Back" has been produced experimentally by checking the roots of the trees when in healthy conditions ; untreated controls had remained in good condition.

Growth check to shoots resulting from canker infections near bases ; "Die Back" of apple shoots was shown to occur in this way.

In all cases of "Die Back" of fruit trees certain organisms are present, usually *Diaporthe perniciosa* or *Cytospora*, but researches at Long Ashton have indicated that these organisms are only effective when environmental conditions such as those listed above are unfavourable to the growth of the host plant.

4. *The Development of the Strawberry Plant and Strawberry Diseases.* A large number of points relating to various lines of

research on strawberry growing were illustrated by photographs and charts, and a few specimens showing various types of diseased plants.

The more important features of the exhibit were : the complete annual growth cycle of the strawberry plant, showing in particular the periodicity of the root and shoot growth ; the effects of different times of planting on the subsequent development of the plants, especially the advantages of early autumn planting were clearly shown ; the effects of different methods of planting—depth of planting, root trimming, etc. ; the points of origin of late formed roots ; specimens of plants showing “ Red Plant ” disease and “ Cauliflower ” disease and the nature of aphid damage ; and the relative cropping powers of various “ strains ” of strawberries over several seasons.

5. *The Control of American Gooseberry Mildew.* A chart was exhibited showing the results of experiments on the control of American Gooseberry Mildew carried out in the West Midlands during 1925.

RURAL EDUCATION AND HANDICRAFTS.

The building for this section was entirely filled by Exhibits from Schools, under the management of the Hertfordshire County Council.

Elementary Schools. One of the chief exhibits in this section was connected with gardening, for the purpose of demonstrating its importance as an educational factor. A plot of ground outside the building was laid out by children between seven and fourteen years of age, as a typical School garden. Various vegetables, fruits and flowers were grown upon it, and the necessary appliances for the purpose, made by the children, were shown, whilst inside the building the results of the correlative lessons were exhibited.

Secondary Schools. Among the principal objects from these Schools were some good examples of practical wood-work, bearing on agriculture and examples of household furniture, made by the boys, side by side with needlework and specimens of nature study made by the girls.

A typical Rural Cookery centre was shown, demonstrating the various dishes made by the pupils.

The Schools of Art at Watford, and at St. Albans, contributed a good selection of paintings, drawings, posters, etchings and models in

plaster. The historic costumes from the latter school were of interest.

There were also shown exhibits, (a) demonstrating the position of the National Savings Association in connection with the Elementary Schools, and (b) explaining the Rural Library Scheme of the County Council.

Rural Industries. In connection with the movement for promoting a revival of Rural Industries the Hertfordshire County Council organized an Exhibition of the work of Blacksmiths and Wheelwrights in the County. The objects shown by the village blacksmiths demonstrated that, besides making horse shoes and agricultural implements, they are capable of executing iron-work of an artistic character. There were some good specimens of wrought iron gates, door fittings, scroll work, fire dogs and other decorative objects. The Wheelwright's Section consisted of a farm cart, wheel-barrows and field gates.

PHYSICAL TRAINING DEMONSTRATION.

On the last day of the Show a demonstration of Physical Training and Country Dancing was given by six hundred children from Elementary Schools in the County.

As stated in the programme :—

“Nothing out of the ordinary has been prepared, the transposition of the Physical Training from the Schools to the Show is all that will be attempted and indeed is all that is desirable if such a demonstration is to fulfil its function.

The striving for the spectacular has no place in this exhibition, those who expect sensational feats or treats are doomed to disappointment. But for those who desire to know something of the methods to educate physically and, through the body, mentally and morally as well, those children attending our public elementary schools, this demonstration has been arranged and should prove of interest.”

The result was eminently satisfactory and greatly appreciated by those who witnessed the display. A special feature was made of the “Team System,” whereby each child was “all out” to benefit his team, and to play hard, yet fairly, in order that his side might win. The Country Dancing by the girls was very attractive.

XI.—THE EXHIBITION OF CIDER AT WATFORD.

By E. W. Farwell, Steward.

The entries at the Watford Exhibition in 1926 numbered 25 as compared with 41 at Maidstone in 1925, and 50 at Taunton in 1924.

The classes, as usual, were open to growers or makers and were as follows :—

CIDER MADE IN 1925.

Class 241.—Cask of cider by an exhibitor who has not previously taken a first prize in any public exhibition.

Class 242.—Cask of cider of a Specific Gravity not exceeding 1.015 at 60 deg. Fahr.

Class 243.—12 bottles of cider, ditto.

Class 244.—Cask of cider.

Class 245.—12 Bottles of cider.

CIDER MADE PREVIOUS TO 1925.

Class 246.—12 Bottles of cider.

Samples from each exhibit were submitted to Dr. J. A. Voelcker, M.A., F.I.C., for analysis and particulars of the result are set out in the accompanying table, together with the Specific Gravity of the juice as supplied by the exhibitors. No entries were absent and none were disqualified.

Mr. R. A. Warren was the Judge appointed by the Society, and he carried out his duties on the first day of the Show.

The total number of entries was disappointing, while there was no entry in the Novice Class, probably due to Watford not being in a cider making district.

The entries of dry cider in cask and bottle were of little merit, but so even in quality that another Judge might easily have reversed the respective positions of the awards. The winning cider in cask was made of half Kingston Black and half other mixed apples, and that in bottle was made of mixed fruit.

The first prize in the open class for cask cider was awarded for a cider of very pleasant flavour, even if it had not much character.

It was composed of Red, White and Royal Jersey, Dove and Kingston Black.

In the open class for Bottled Cider half the entries were eliminated very easily, but the remainder were very even and gave the Judge considerable trouble to place in order of merit. Finally, the first prize was awarded for the same cider as was placed first in the previous class.

In the class for old cider the winning cider was made of Masters and White Jersey, Horner and a few Cap of Liberty.

The following are the Judge's comments on the exhibits :—

For a Show of the importance of the Bath and West and Southern Counties, the number of entries of Cider was remarkably small. Possibly the distance of Watford from the Cider Counties may have had something to do with this, but the small number of exhibits did not make the task of judging as easy as would be supposed. Indeed, the generally medium quality of the Ciders shown made it extremely difficult in several classes to decide between them. There was no outstanding Cider which made it possible to say at once that it deserved first prize, and as a whole, the Ciders shown were of a disappointing character, and I am sure were not really representative of the Cider Counties' productions.

Class 242 (Dry Ciders in cask) were all very similar—No. 4, which secured first prize, had a slightly lower acidity than Nos. 1 and 2, though as regards flavour, there was little to choose between Nos. 4 and 1.

In Class 243 (Dry Ciders in bottle) the 1st prize was again secured by the Cider with the lowest acidity. Flavour and other points being equal, a "dry" cider with reasonably low malic acid would be chosen in preference to one of sharper flavour.

Class 244 (Cask of Cider made in 1925). There is not much to comment upon in this class, except that No. 15 had a remarkable analysis, the specific gravity and Total Solids being surprisingly high, with an undesirable percentage of acidity. I might also mention that there was a greater difference in quality between Nos. 12 and 14 than between Nos. 11 and 12.

Class 245 (Bottled Cider made in 1925). This class, as would be expected, contained a number of palatable ciders of very fair quality. Generally speaking, the high specific gravity of present

day ciders, secured by scientific management, makes for palatability, and this fact is striking in comparison with Ciders of twenty years ago, but such an abnormal production as No. 23 cannot be considered one deserving commendation as a beverage.

Class 246 (Bottled Cider made previous to 1925), produced only two entries of widely differing character and flavour. No. 24, made in 1923, was of a very soft character and had retained its sweetness in a rather remarkable manner. It seemed likely that it would remain thus stable for some time, while No. 25, though brisk and sharply pleasant at the moment, would probably become drier in bottle, the acidity then becoming more and more apparent. The first prize was given to No. 24, though it may be remarked in passing that there is some danger of sickness in bottling a cider of such very low acidity.

CIDERS.

RESULTS OF ANALYSIS.

Class.	No.	Specific Gravity.	Solids.	Percentage of Alcohol.	Acid.	Sp. Gravity of Juice.
242	1	1.014	5.17	4.58	.56	1.054
	2	1.014	5.27	4.65	.63	1.055
	3	1.011	4.17	4.21	.40	1.055
	4	1.014	5.02	4.00	.48	1.056
243	5	1.013	5.05	4.80	.61	1.054
	6	1.014	5.27	4.65	.64	1.055
	7	1.015	5.52	3.06	.54	—
	8	1.013	4.87	4.36	.43	1.055
244	9	1.013	4.80	3.92	.48	1.056
	10	1.010	4.67	6.16	.47	1.060
	11	1.028	7.85	2.16	.40	1.056
	12	1.035	9.17	1.61	.50	1.057
245	13	1.033	9.20	2.36	.71	1.057
	14	1.025	7.25	2.57	.64	1.057
	15	1.047	13.05	3.49	.91	—
	16	1.033	9.30	2.78	.57	1.056
246	17	1.035	9.75	2.92	.48	1.057
	18	1.030	8.40	2.50	.60	—
	19	1.024	7.10	2.64	.81	—
	20	1.033	9.17	2.29	.67	1.057
246	21	1.027	7.92	3.35	.71	1.057
	22	1.003	3.12	6.40	.47	1.055
	23	1.047	12.97	3.56	.85	—
	24	1.026	7.45	2.43	.29	1.053
	25	1.027	7.95	3.35	.74	1.054

XII.—THE BACON CLASSES AT WATFORD.

The result of the Carcase Competition of the five entries in the Bacon Class at the Bath and West Show were as follows :

Entry No. 1313 obtained 85 points.

„	„	1308	„	80½	„
„	„	1311	„	79	„
„	„	1314	„	77½	„
„	„	1312	„	75½	„

It will be observed that the winners in the Live Class* are also winners in the Bacon Class, but that Entry No. 1313 which was 3rd in the Show has obtained premier position in the Bacon Competition.

In arriving at the above figures I awarded points to each entry for structure after slaughter, for firmness of fat and for wastage from Carcase to Bacon Weight, the maximum being 100, and it will interest you to learn that as regards structure there was no material difference in the three entries, which obtained the highest number of points, and that it was almost entirely due to small wastage in offal in entry No. 1313 that these pigs reached the highest number of points.

Below I give details of the loss of points each entry sustained under three main headings during the process.

	ENTRY No.				
	1313	1308	1311	1314	1312
Loss of points in structure	8	8½	6	15	8
Wastage in slaughter and from Carcase to Smoked Bacon ..	4	8	12	3½	12½
Firmness of fat and appearance after smoking	3	3	3	4	4
	15	19½	21	22½	24½

(Signed) J. ANDREASSEN,
Judge.

* *Vide* Appendix, p. xci.

XIII.—ANNUAL REPORT UPON THE SOCIETY'S GENERAL OPERATIONS.

By F. H. Storr.

The Annual Meeting of Members was held on Thursday, May 27th, in the Council Pavilion, in the Show ground, Watford. The President, the Earl of Clarendon was in the Chair, and among the members present were :—The Marquis of Bath, Lord Wynford, Messrs. J. H. Benyon, H. M. Cundall and H. B. Napier (Vice-Presidents), Sir F. B. Beauchamp, Col. E. Lewis, Major F. H. O. Jervoise, Capt. E. A. B. Clive, Capt. W. Lewis, Mrs. Jervoise, Messrs. J. Bamford, H. A. Benyon, R. Bruford, J. E. Daw, A. L. Hobhouse, H. J. Kingwell, G. Lipscomb, Prof. J. Penberthy and A. R. White.

The Minutes of the last Annual General Meeting having been read and confirmed, it was unanimously resolved on the motion of the Chairman, seconded by Mr. J. H. Benyon, that H.R.H. The Duke of York, K.G. be elected president of the Society for the ensuing year.

On the motion of Mr. A. L. Hobhouse, seconded by Mr. A. R. White, the Earl of Clarendon and Col. R. A. Moore-Stevens were elected Vice-Presidents of the Society. On the motion of Col. E. Lewis, seconded by Prof. J. Penberthy, the gentlemen named on page cxxii of the appendix were elected members of Council for the years 1926-1928.

Mr. H. B. Napier, in proposing that the Annual Report, as amended, should be approved and printed in the Society's journal, referred to the demonstrations carried on by the Society of the eradication of bracken in hill pastures. The demonstrations, he pointed out, had been most satisfactory, and it had been proved that bracken could be eradicated at a reasonable cost, while the value of the land treated had in many cases been trebled. Land which had been let before treatment for five shillings an acre, was worth now, on a valuation, from £1 to 25s. a year. He hoped that landowners and farmers would avail themselves of the facts brought to light. Capt. E. A. B. Clive seconded the motion, and the following report was approved.

Your Council congratulate members on the announcement that H.R.H. The Duke of York has graciously consented to be nominated as President of the Society for the year 1926-27, the year when the Society's third jubilee will be celebrated.

Once again the preparations for the Society's Annual Meeting have been overshadowed by a national crisis, and it is indeed fortunate that it has proved unnecessary to make any alteration in the arrangements. Not until Friday, 14th May, was it possible to broadcast the announcement that the Show would be held, but by fine organisation and hard work on the part of the railway companies and all others concerned difficulties have been overcome, and the yard completely filled. Your Council is pleased to have been able to secure the co-operation of the Hertfordshire Agricultural Society, whose members will obtain all the privileges of members of the Bath and West. The hearty thanks of the Society are due to the Committee of the Watford Horse Show, who have abandoned their meeting this year, and especially to the Watford Local Committee and their Hon. Secretary, Mr. Gordon Flint, without whose unfailing help and energy it would have been difficult to ensure the success of the meeting. The thanks of the Society are also due to the Hertfordshire County Council, who are not only undertaking the care of many demonstrations and competitions in the yard, but are organising as well a special display to illustrate the physical training of school-children in the County Council Schools.

The year 1925 has been a full one in the annals of the Society's experimental work. Observations are still being made of the bracken eradication plots and those for the manuring of acid pastures. A considerable amount of information has also been gained as to the cost of obtaining lime in districts where transport is a difficulty. Enough has been learnt to show that crushed limestone cannot compete with burnt lime when it is possible to obtain coal for a small lime kiln at a moderate cost. Machines however are being manufactured which will reduce the whole range of lime rocks, from chalk to the hard mountain limestones, at an economic cost. Before a full report is published on these points it will be necessary to wait for the results of the trial to determine the exact comparative value of crushed limestone and burnt lime which are being carried on at Long Ashton. Reports from Bristol University will probably also be available this year on the physiological effects on the bracken plant of cutting at

various stages in its growth. These reports will complete the work undertaken on the subject of bracken eradication. It may also be of interest to know that the Society were able to help forward a scheme, instituted by the Advisory Officer of Bristol University, for studying the effect on poor pastures of intensive grazing. An appeal sent to members of Council brought four offers of land which could be put at the disposal of Dr. Hanley.

The continued outbreaks of foot and mouth disease have kept the attention of the whole agricultural community fixed upon this scourge. Council, while acknowledging the promptness with which the Ministry have acted on the occurrence of each outbreak, were of opinion that not enough has been done to attempt to eliminate all sources of infection from abroad. The importation of hay and straw being especially open to suspicion, the Ministry were urged to prohibit their use as packing material from abroad. Whether the order forbidding the use of such material for stock sufficiently safeguards the cattle and sheep of this country is open to grave doubt. Council also decided to support the National Horse Association of Great Britain in urging the Ministry to make the notification of Abortion in Mares compulsory.

Your Council regret that the Financial Report for 1925 was not so satisfactory as it has been for some years. The final figure of the loss incurred at the Maidstone Show may now be given as £1,993, some of the disbursements not having proved so large as had been feared. It has been necessary however to sell out £1,000 of War Loan Stock, and this, with a slight depreciation in the market value of other Stocks, has reduced the value of the Society's investments from £23,206 to £21,854. It should also be borne in mind that if the appeal against the payment of Income Tax on Investments goes against the Society, a sum of about £200 will have to be found, representing the unpaid tax for the last three years. It is hoped that members, realizing these facts, will make a special endeavour to add largely to the membership of the Society in the coming year, and so signalize the presidential year of H.R.H. the Duke of York, and the 150th Anniversary of the foundation of the Bath and West.

Careful consideration has been given to the question of the duration of the Society's Annual Show. This matter was the subject of a full report from a special committee more than 20 years ago, and the report of this committee has been re-endorsed,

that no alteration in the duration of the Show is advisable. The arguments against curtailment appeared to be overwhelming, and the decision arrived at was unanimous.

During the year under review the Society has suffered the loss of three valued members of Council, Major C. H. Chichester, Mr. H. M. Cobb and Colonel H. Lewis. Mr. Cobb's ungrudging help was of the greatest value whenever the Society visited Kent, and in earlier years Colonel Lewis's support was equally important in South Wales. Mr. A. Allsebrook has been compelled to resign membership of the Council owing to pressure of other work. To replace extraordinary vacancies on the Council, nominations have been approved of Lord Lymington, Sir Francis Rose Price, Major R. F. Fuller, Mr. H. A. Benyon, Mr. R. Cobb, Mr. W. Drew and Mr. J. Bamford. The Council recommend that the gentlemen named on the agenda paper be elected as members of Council for the years 1926—28, with the addition of Colonel J. S. Graham Clarke as a member of the without reference to district division.

There is no alteration in the gentlemen representing the Society on the governing bodies of the Royal Agricultural College, Cirencester, the Dauntsey School Foundation, the Sugar Beet Growers' Society and the South Eastern Agricultural College, Wye. Mr. A. F. Somerville has been nominated as a Life Governor of the National Institute for Research in Dairying, while Mr. G. Lipscomb is representing the Society on a sub-Committee appointed by Bristol University to consider the status of the Research Station of the National Fruit and Cider Institute, where Mr. H. B. Napier and Mr. C. P. Ackers are on the governing body.

Your Council desire to express to Lord Clarendon its sincere thanks for his services as President during the past year. They recommend that he be elected a Vice-President of the Society, as well as Colonel R. A. Moore-Stevens, for many years one of the Stewards of Stock at the Annual Meeting.

The Marquis of Bath proposed that the thanks of the Society be presented to the Mayor of Watford and to the Local Committee for their efforts to promote the success of the meeting, and to the Hertfordshire Agricultural Society for their cordial co-operation. The Society's gratitude was the warmer because of the exceptional difficulties from which the arrangements for the Show had suffered this year, and was especially due to Mr. Gordon Flint, the untiring Local Secretary. Though London was the hub of the Universe,

nearness to it did not make for good attendances, but the essential point was to have the good-will of the town and county visited. Mr. J. Bamford seconded the motion which was unanimously carried. On the motion of Mr. G. Lipscomb, seconded by Lord Wynford, the thanks of the Society were presented to those gentlemen who had kindly acted as Judges in their several departments of the Show. Lord Wynford expressed his wish to include in this vote of thanks the local Veterinary Surgeons and the officers of the British Red Cross Association, whose help had been invaluable.

On the motion of Mr. J. E. Daw, seconded by Sir F. Beauchamp, it was unanimously agreed that the thanks of the Society be presented to the Earl of Clarendon for the valuable services he had rendered to the Society as President during the past year. Lord Clarendon in replying, said that he had been pleased to accept the position, and only regretted that his duties at the Dominion Office had prevented his giving all the time to the affairs of the Society, to which his interest in it would have prompted him. He would carry with him cordial memories of his term of office.

XIV.—THE NATIONAL FRUIT AND CIDER INSTITUTE.

By B. T. P. Barker, M. A., Director.

While the accounts furnished to this Journal each year under the above title are intended to deal primarily with the activities of that section of the Agricultural and Horticultural Department of the University of Bristol, located at the Long Ashton Research Station, (the National Fruit and Cider Institute), the association between the latter and the two other sections of the Department, at Berkeley Square, Bristol, and the Campden Research Station respectively, is so close and the work so interwoven that some reference to those centres becomes inevitable. This is particularly the case in respect of the advisory side of the work of the Department.

The following Report will therefore relate to the more important events of the year 1926 concerning the Department as a whole and give a review of its advisory work, while the part referring to research will deal only with matters undertaken by Long Ashton. The work in the latter direction has now become so extensive that the space available in the Journal is quite inadequate for a complete account. Accordingly it has not been possible to include reference to more than a limited number of the subjects upon which investigations are proceeding. The selection which has been made represents an attempt to indicate the varied character and wide range of the programme rather than any complete record of one or other branch of it. Readers who desire to see a somewhat fuller record may be referred to the Annual Report of the Station which is issued each year in May. Although that does not contain the whole of the material published from the Station, it will include in future a list of all publications which appear in outside scientific journals and for which there is not room in the Report itself.

Before passing on to the work of each section of the Department, the customary acknowledgement of the services of the administrative and labour staffs should be made. It is gratifying to be able to record each year their constant and loyal help.

LONG ASHTON RESEARCH STATION.

As in 1925, changes in staff have been relatively few during the year under review. As a result comparatively uninterrupted work and commensurate progress in most directions can be recorded.

In fact, as regards both the research and advisory sides, the year has probably been the most productive and useful in the history of the Long Ashton Institute.

Some disappointment has been expressed at the discontinuance of the series of Open Days, started in 1925. The decision to suspend them during 1926 was arrived at after very careful consideration, during which the conflicting claims of the research and educational aspects of the case were fully reviewed. Those who are aware of the amount of preparation and expense attached to the arrangement of exhibits and demonstrations at Shows and of visiting parties to the Station, and the dislocation of internal work incidental to these educational efforts, will appreciate the heaviness of the call required to carry through the programme of work for the year reported on below. To have added any further items to the programme would have entailed a degree of interference with the primary purpose for the existence of the Station which would have been difficult to justify. Moreover, it should not be overlooked that the Station, while open at any time to visitors, sets aside each Wednesday as a regular Visiting Day, and arranges for a member of the staff to be available on those days to demonstrate the work in progress and deal with enquiries on any subject coming within its province.

Staff. The appointment of Dr. H. R. Briton-Jones to the post of Professor of Mycology at the Imperial College of Tropical Agriculture, early in 1926, created a vacancy on the research staff which has been filled by the appointment of Mr. R. W. Marsh, B.A., as Research Mycologist.

At Xmas, 1926, Mr. T. W. Swarbrick, Ph.D., terminated his period of study at Long Ashton as a research scholar of the Ministry of Agriculture and has proceeded to Wisconsin, U.S.A., in order to complete his training.

Mr. H. D. Bennett, M.Sc., another student of the Ministry, is attached to the Station for the completion of his studentship period. He is assisting in certain of the pomological and plant physiological investigations in progress.

Mr. P. T. H. Pickford, after undergoing a special course of training in cider-making, has been appointed Cider Instructor under the scheme for the provision of local instruction in cider-making for the counties of Dorset, Monmouth and Worcester.

The special investigation on the composition of tar oil spray fluids carried on by Mr. L. E. Smith, Ph.D., has been concluded on his

departure to Germany for a course of study at the Institut für Kolloidforschung, Frankfurt a/M. A further special grant has been received from the Ministry of Agriculture to enable the trials with the new spray fluids, compounded on formulæ proposed by Dr. Smith, to be completed.

Dr. Steward, of the Botanical Department of Leeds University, spent a part of the summer at Long Ashton in pursuance of his investigation on certain materials which can be leached from the leaves of fruit trees, a line of work closely associated with that upon which Messrs. Wallace and Mann are already engaged at the Station.

Land and Plantations. The difficulties confronting the Institute in respect of the provision of suitable land to meet pressing needs for the extension of field experiments on fruit culture arising from investigations already in hand were indicated in the last Annual Report. Unfortunately they are no nearer solution and the situation is actually more serious, since it is now clear that there is no chance of relief in directions which a year ago afforded some slight ground for hope. Unless some entirely new development in the situation occurs in the near future, a most regrettable check in that part of the work of the Institute which interests most closely the practical fruit grower must result.

During the year a 5 acre plot of some of the leading varieties of plums, worked on a selection of typical examples of plum rootstocks classified and propagated at the East Malling Fruit Research Station, has been planted up. Its primary purpose is to serve for the extension of the investigation on the "die-back" diseases of the plums, which Dr. Briton-Jones has had in hand for some time: in addition it will provide a test of the plum rootstock types under Long Ashton conditions. The plot is interplanted with strawberries, an attempt being made here, by applying knowledge gained from recent investigations at the Institute, to lay the foundation of a stock of plants of the leading commercial varieties superior in vigour and constitution to the stocks of comparatively low vitality and poor performance upon which growers have been obliged to fall back since the war. Other recently planted sections of strawberries on this plot and elsewhere are concerned with the various investigations on the culture and pathology of this fruit which have formed one of the main lines of work at the Institute during the past three or four years.

In connection with the research on manurial problems a plot of apples, in which effects of deficiency and balance of individual

nutrients will be tested out, has been established. A second generation of plants has been set out on the original strawberry manurial trial plots and a deficiency series of plots for this fruit also has been provided.

Points of fundamental importance in tree building, shaping, and pruning will be investigated on a plot of apples planted early in 1926.

Extensions have been made to the selected "free" stock trial plantation of apples, the various seedling trials plots, and the willow and raspberry variety plots. Included in the latter is now a group of seedlings raised at the Institute which appear worthy of comparative trial on a fairly extensive scale against standard commercial varieties.

Buildings. The cottages, referred to in last year's Report as in course of erection, have been completed and are in occupation by various members of the staff.

The need for laboratory extension also mentioned on that occasion has been officially recognised and a grant of £2,500 from the Development Fund for an addition to the existing laboratory building has been sanctioned on condition that an equal sum is contributed by the Institute. A promise of a special building grant of £2,000 from the University of Bristol has enabled this condition to be accepted by the Governing Body, and the new building will be started early in 1927.

General. The Annual Tasting Day was held on May 6th and proved a most successful function considering the attendant difficulties resulting from the General Strike just then in progress. The number of visitors, although somewhat below the average of recent years, was unexpectedly large under the circumstances.

Two gatherings of particular interest were arranged to be held during the summer. The first, the summer provincial conference of the Association of Economic Biologists, unfortunately had to be abandoned at the last minute owing to the general dislocation of engagements and travelling caused by the general strike and has been deferred till the summer of 1928. The other, the annual meetings of the Research Council of the Ministry of Agriculture and Fisheries, extended over two days and afforded an opportunity of demonstrating the work of the Institute to representatives of the Ministry and the Development Commissioners dealing with the administrative side of agricultural research and the Directors of the other agricultural research stations in this country.

In addition the following organised parties visited the Institute during the year :—

The Bristol Education Committee's Gardening Classes.
 Devon County Party.
 Joint Committees of the Provincial Advisory Conference of the Harper
 Adams and Bristol Provinces.
 Messrs. Ferris and Company's Horticultural Society.
 The National Utility Poultry Society.
 The Bristol Section of the Institute of Chemistry.
 The L.M.S. Horticultural Society.
 Dorset County Party.
 The Somerset Bee-keepers' Association and the Bristol branch of the
 Somerset Bee-keepers' Association.
 The Bristol Post Office Retired Officers' Association.
 The Whitehall and District Allotments, Ltd.
 Wiltshire County Party.
 Devon Farmers' Party.

Educational exhibits were staged at the following Shows :—

The Royal Agricultural Show, Reading.
 The Bath and West and Southern Counties Society's Show, Watford.
 The Cambs. and Isle of Ely Agricultural Society, Wisbech.
 The Long Ashton Horticultural Society, Long Ashton.
 The Somerset County Show, Wells.
 The Wiltshire County Show, Chippenham.
 The Three Counties Show, Gloucester.
 The Imperial Fruit Show, London.
 The Brewers' Exhibition.
 Abervagenny Horse Show.
 The Bedwelty Agricultural Show, Blackwood.

Several lectures have been given by members of the staff both within and outside the Bristol Province. In this connection it is significant to note the increasing interest being taken abroad as well as in this country in the work the Station is doing. Its development has been apparent from correspondence and enquiries received from all parts of the world and has been particularly emphasised by the visit of Mr. Wallace, the Deputy Director, to America last August, to attend the International Conference on Plant Science held at Ithaca and view representative experiment stations and fruit-growing areas in Eastern Canada and the United States. The visit was made possible by the award of a Travelling Fellowship from the Ministry of Agriculture.

The scheme for the provision of local instruction in cider-making is now in full operation. The counties of Dorset, Monmouth and Worcester are being served by a full-time instructor, Mr. P. T. H. Pickford, who has been trained at the Institute and has his working headquarters located there. The training of Mr. Forshaw, the instructor for Somerset, has also been completed and he is now

working exclusively in that county. The position in the other interested counties is similar to that a year ago, except that in Devon more particularly a strongly supported organised effort to improve the present position of farm orcharding in the county and to secure the planting of a large acreage of new cider orchards has developed. A similar movement in other counties is foreshadowed.

The more advanced course of cider instruction proposed to be given at the Institute has been started. Owing to lack of available laboratory accommodation the number of pupils has had to be limited, but by the autumn of 1927 it is expected that the new laboratory extension will be finished and as much room as is likely to be required will then be available.

As part of the effort to stimulate greater interest among farmers in their orchards and ensure adequate supplies of English-grown cider fruit for the future, a new departure in the cider-house work at the Institute in the shape of a novel form of cider competition was started during the cider-making season 1925-26. Further details of this are given in a later section of this Report. The Institute is greatly indebted to the judges, Messrs. Herbert J. Davis, W. Chapman Gaymer, and R. F. Ridler, for their services, which were given free of expense to it, and desires to place on record here its appreciation and thanks. Their task was a novel and difficult one, and it must be a source of gratification to them that their awards met with general approval.

The relations of the Institute with other centres and conjoint work arranged with those bodies were recorded in some detail in the 1925 Report. There is no occasion to repeat the record here, since in all cases corresponding arrangements were continued throughout 1926. It will suffice if mention is made of the following features.

The second joint meeting of the staffs of the East Malling and Long Ashton Research Institutes was held at the former Station in November. Our thanks are due to the Director and Staff of that Institute for the hospitality received on that occasion and the excellent arrangements which ensured a most useful and instructive visit.

The third joint meeting of the research, educational and advisory workers in the Harper-Adams and Bristol Provinces took place in June, part of the time being spent at Bristol and Long Ashton and the remainder at the Somerset County Agricultural Society's Show at Wells.

The original fruit soil survey undertaken in conjunction with a group of workers attached to the Agricultural Department of the University of Cambridge has been completed. A detailed report covering the whole of the work accomplished during the four-year period over which the survey extended has been prepared and submitted to the Ministry of Agriculture. The results, which are of fundamental importance, will probably appear among the series of Research Monographs issued by the Ministry. An abbreviated account is included in the present Report. The second survey, to which preliminary reference was made a year ago, has been started and promises to provide results of the same order of importance as its predecessor.

Meetings of the workers engaged on the investigations on the strawberry problems took place at the Seale Hayne College in July, and at the Ministry of Agriculture in December, to discuss progress. The situation has been cleared considerably and some six or seven characteristic forms of diseased or unhealthy plants can now be identified in the field with some degree of certainty and in certain cases associated with a specific cause. Progress has been slower than had been hoped, since the services of a suitable full-time investigator could not be secured and the work has, therefore, been entirely in the hands of workers who have had other calls on their time. Unfortunately, the prospects of carrying through completely the 1927 programme are even less favourable, for it is probable that the services of two of the most active workers will no longer be available.

BERKELEY SQUARE ADVISORY CENTRE.

(The following report on the work at this Centre has been contributed by Dr. J. A. Hanley, Chief Advisory Officer).

During the year 1926 considerable progress may again be reported in certain branches of the advisory work. The following new appointments were made to the Agricultural Advisory Staff at Berkeley Square, Bristol—Mr. V. L. S. Charley, B.Sc., has been appointed as a full time Chemist to work with the Advisory Chemist; Mr. M. C. Thorne, P.A.S.I., and Mr. G. H. Pickard, P.A.S.I., have been appointed Student Assistants in Agricultural Economics.

The co-operation existing between the Advisory Officers and the County Staffs has been still further cemented by the initiation of joint experimental work on spraying of fruit trees, grass land problems, sugar beet experiments and work in connection with the County Clean Milk Competitions. For the purpose of co-ordinating

results of experiments it becomes more and more necessary to run the experiments on co-operative lines, and in most cases they are designed so as to contain certain plots or treatments common to every series, in whatever district or county they may be situated, at the same time allowing a certain amount of elasticity in the use of optional treatments.

Agricultural Chemistry. Whilst the number of samples of manures, feeding-stuffs, etc., in connection with general agricultural questions has shown a further increase over previous years, a good deal of special work had been carried out in connection with the sugar beet crop. Upwards of 300 samples of sugar beet have been dealt with in the laboratory and the Advisory Chemist, as a member of the Sugar Beet Sub-Committee of the Agricultural Education Association, has been devoting considerable time to problems in connection with this important crop.

Of the general farming problems, grass land is still of paramount importance and continues to monopolise more of the work in this section than any other farm crop.

Dr. Hanley, for the third year in succession, judged the Herefordshire Pasture Competition, promoted by the Agricultural Education Sub-Committee of that County.

In conjunction with Mr. T. Wallace, Dr. Hanley is also carrying out the Soil Survey of the Lower Lias, which extends from North Worcestershire to South Somerset and which, in the latter county, embraces the area of notorious "teart" land.

Dairy Bacteriology. The abnormally large entries in the County Clean Milk Competitions in Somerset and Wiltshire led to a large increase in the amount of bacteriological work carried out during the winter, 1925/1926. Unfortunately, the outbreak of "Foot and Mouth" disease seriously interfered with the Competitions in all our counties, except Somerset. It is gratifying to note that advisory work on questions in connection with the production of "clean milk" and in milk bacteriology generally increased greatly during 1926. Quite a number of producers of graded milks now avail themselves of the opportunity of having samples tested regularly by this department.

Courses on "Clean Milk" for Sanitary Inspectors were provided at the University during the year.

The University has now provided an extension to the Milk

laboratory at Berkeley Square, and an admirable room is available for the large amount of work which will commence at the beginning of 1927.

Agricultural Economics. The completion of a full year's cost accounts and the examination of a full year's financial accounts on many farms, particularly in Somerset, has enabled Mr. Weller to establish a distinct advance in the Agricultural Economics work during 1926. In connection with the cost accounts a somewhat unique meeting took place at the University in November, when eight farmers met the Vice-Chancellor and members of this Department to discuss fully the details obtained during the complete financial year. Some most valuable points in connection with farm management were ventilated and many matters for future investigation were suggested. There is no doubt that for the farmers concerned such a discussion is distinctly superior to lengthy written reports on the year.

At the request of the Somerset County Branch of the National Farmers Union Mr. Weller drew up a summary of the results of his investigation of cost and simple accounts. This evoked considerable interest when read at the annual meeting at Yeovil in December. Copies of the report have been circulated amongst farmers and others interested. At the annual dinner of the Somerset Branch at Wellington, which Mr. Weller attended, further appreciation of the work in Agricultural Economics was forthcoming.

Another interesting source of farmers' accounts for analysis in this department is provided through the formation of the Wiltshire Agricultural Accounting Society. The formation of this Society does not in any way interfere with any arrangements which may have been made previously with professional accountants and others for the preparation of accounts for income tax purposes, but it facilitates the use of such accounts by this department for the investigation of farm management problems. Mr. Thorne has during the year taken up permanent quarters in Wiltshire in order to be on the spot and to assist more conveniently the work of this Society.

Mr. Weller also formulated a Correspondence Course in Farm Book-keeping, which has been taken up in Wiltshire and is being conducted successfully by the County Staff.

CAMPDEN RESEARCH STATION.

The vacancy caused by the resignation of Miss M. J. M. Watson, who has been appointed Inspectress in Domestic Science under the

Scottish Board of Education, has been filled by the appointment of Miss Margaret Adams as Demonstrator in Fruit and Vegetable Preservation.

Dr. F. J. Paton's appointment as Assistant Research Chemist at Campden terminated at the end of 1926. A successor will be appointed in the new year.

The educational and advisory work of this Station continues to show rapid advance.

Forty-four students, mainly teachers of domestic science, attended the courses held during the fruit season. The increased number of students for the year was the result of a conference held at the Board of Education and attended by representatives of the Board, the Station and the various Womens' Training Colleges. At this conference the question of courses suitable for teachers of domestic science was considered, and it is probable that these courses will in future be more especially designed to meet the needs of the Board of Education.

There is a significant and increasing demand for courses of training in commercial methods of fruit and vegetable preservation, which under existing conditions at Campden cannot be met. This problem has been under serious consideration and, if certain negotiations now in progress result satisfactorily, may be solved before the next Report is issued.

Eighteen lectures to various local Women's Institutes in counties adjacent to the Station have been given in addition to a few lectures outside the district to special bodies, such, for example, as the Lea Valley Tomato Growers' Association. Three demonstrations of the home canning apparatus introduced by the Station have been held in Warwickshire with an aggregate attendance of 250. The introduction of this machine has evidently supplied a definite want and the makers report that sales have been encouraging.

The number of enquiries for advice and assistance on technical points continues to increase, 576 being dealt with in 1926. While they mostly relate to the domestic side of fruit and vegetable preservation, there has been a notable increase in the number of those relating to the commercial aspect. In fact, the salient feature of the year's work has been the active help rendered to various firms who have undertaken fruit canning for the first time.

In the latter connection special reference may be made to the

demonstration of fruit canning organised by the Station in conjunction with the Ministry of Agriculture, at the premises of the British Fruit Packing Co., Ltd., at East Farleigh, near Maidstone. For this purpose the Station was enabled to procure from America one of the most up-to-date types of canning plant, which was installed at East Farleigh for the primary purpose of serving for demonstrations of apple canning on a commercial scale. The unfortunate failure of the apple crop in Kent caused a drastic curtailment of the original programme with apples, and arrangements are accordingly being made for a continuation next season. On the other hand, the abundant plum crop afforded a very favourable opportunity of demonstrating the canning of that fruit on a commercial scale and consequently the main effort at East Farleigh for the 1926 fruit season was concentrated on that fruit, with very encouraging results. Both in this case, and at other centres where the staff of the Station have given active help in establishing commercial canneries, the results have shown that there is a great demand for British canned fruit of good quality and that the beginnings of what should prove a flourishing industry are being firmly established.

With the object of fostering this young industry steps have been taken during the year by the Ministry of Agriculture which have resulted in the formation of a National Canning Council, a body which is thoroughly representative of the fruit growing, canning, tinplate, can-making and other associated industries. The Station is represented on this Council and its Research Committee by the Director and Resident Director. It has already undertaken a number of investigations and furnished various reports on canning and related problems at the request of the Council, serving in fact as the centre to which the Council looks for help on the technical side.

The Station has also been of service to the Ministry of Health in connection with questions which have arisen on the use of certain preservatives utilised for imported preserved fruit.

The facilities which the Station affords for assistance on matters relating to fruit and vegetable preservation are thus now becoming more fully realised, and it would appear that it is becoming a factor of high value in the promotion of the welfare of the fruit and vegetable industries of this country in so far as it deals with the utilisation of that portion of those crops which cannot be consumed in the fresh state. As its usefulness extends, it becomes increasingly clear that

it is desirable to bring it into closest possible touch with the cultural side of fruit and vegetable growing, since the one side is a necessary adjunct to the other for economic reasons. The University and the Ministry of Agriculture have under consideration a scheme whereby this may be affected and important changes designed to achieve this object may come into operation during the coming year.

The applied results of the experimental and research work carried out by the Station have already in some cases been published in a series of leaflets issued by it. Miss Watson has published a hand-book on *The Home Preservation of Fruit and Vegetables*, which embodies the experience gained in the course of the Home Kitchen work at Campden. Other publications relating to the work are in course of preparation.

ADVISORY WORK.

During the year under review there have been one or two changes in staff. Mr. V. L. S. Charley, B.Sc. has been appointed as a full-time chemist to work with the Advisory Chemist in place of Mr. L. F. Ashton (resigned). Mr. M. C. Thorne, P.A.S.I. and Mr. G. H. Pickard, P.A.S.I. have been appointed student assistants in Agricultural Economics.

Once again the number of enquiries dealt with during the year shows an increase on the previous years. It is interesting to note that the increase is largely due to enquiries from counties which have usually sent in the smallest number of enquiries.

There is a large increase in the number of milk samples dealt with. The dairy bacteriology work has increased so rapidly during the year that it has been found necessary to provide an extension to the milk laboratory. The University has provided a very useful, well lighted and well situated room for this work.

Two courses on "Clean Milk," for Sanitary Inspectors, have been provided at the University during the year.

The following table gives a list of enquiries dealt with during the past six years :—

					Year ending September 30th.					
					1921.	1922.	1923.	1924.	1925.	1926
Gloucester (including Bristol)	..			..	73	78	136	137	194	262
Hereford	..	..	..	..	22	21	62	107	88	91
Somerset	..	..	..	..	96	114	141	130	395	276
Wiltshire..	..	..	..	..	10	18	66	24	117	175
Worcester	..	..	..	..	45	56	48	78	78	103
Other areas	..	..	..	..	125	201	205	195	222	309
Totals					371	488	658	671	1094	1216

Included in the figures under "other areas" are enquiries received from Devon and Monmouth, both of which counties contribute annual grants to the Long Ashton Institute, although not forming part of the Bristol Province.

This list does not include a considerable number of general agricultural enquiries which have been dealt with by the Chief Advisory Officer, many of which have involved visits to farms in the Province. The figures given have reference only to enquiries which have been dealt with by correspondence, and do not include a large number dealt with in personal interviews at shows, etc.

Enquiries relating to fruit and vegetable preservation are not included in these statistics. Advisory work on this subject is dealt with in the report of the Campden Station.

During the year full use has been made of the Provincial Advisory Conference and once again a Joint Meeting with the corresponding body from the West Midland Province has been held. One of the most important results of these Conferences is the co-ordinating of county experimental work, which includes manurial trials, variety trials and spraying trials on fruit trees. In much of this work the West Midland Province has also co-operated.

Perhaps special attention should be directed to the report by the Adviser in Agricultural Economics. The provision of an additional student assistant in Economics has enabled the Adviser to undertake seriously the work offered by the Wiltshire Accounting Society. One student assistant is now stationed in Wiltshire, and is in close touch with those responsible for the scheme and is actively engaged in obtaining accounts suitable for investigational work in this department. The scheme now appears likely to prove very successful, and a considerable addition to the membership is expected.

During the year 63 lectures, exclusive of those given in courses mentioned in the Sectional Reports, have been delivered by Advisers to societies of farmers and fruit growers.

The following Sectional Reports serve to show the nature of the advisory work carried out during the year.

The sections dealing with Agriculture, Agricultural Chemistry, Agricultural Economics, Economic Entomology, Economic Mycology and Willow Culture have been respectively contributed by Dr. J. A. Hanley, Mr. A. W. Ling, Mr. E. P. Weller, Mr. L. N. Staniland, Mr. R. M. Natrass and Mr. H. P. Hutchinson, the Advisers in those subjects.

AGRICULTURE.

Most of the work on general agricultural questions which comes under the notice of this department is done by the Chief Advisory Officer. Perhaps special attention should be directed to the following points :—

(1) *Grass Land Work.*

A large portion of the time of the staff is taken up with grass land problems. For the third year in succession the Chief Advisory Officer has judged the Herefordshire Pasture Competition, promoted by the Agricultural Education Sub-Committee of that county.

Grassland experiments carried out in conjunction with the Bath and West and Southern Counties Society's Experiments Committee have now been taken over by the Berkeley Square branch and the Advisory Chemist is supervising the field work which includes investigations into the following points :—

- (a) Manuring of Acid Pastures
- (b) Eradication of Bracken.

(2) *Production of Agricultural Lime.*

In conjunction with the Bath and West and Southern Counties Society's Experiments Committee, a survey has been made of the limestones in the Province with a view to the erection of more or less demonstrational plants for producing ground limestone or ground chalk and burnt lime.

(3) *Clean Milk Competitions.*

The Chief Advisory Officer judged the Wiltshire Clean Milk Competition in which there were over 90 competitors. The department was thus brought into close touch with a large number of milk producers in Wiltshire.

(4) *Soil Surveys.*

A good deal of time has been given by the Chief Advisory Officer and Mr. T. Wallace to the Soil Survey of the Lower Lias. Most of this work has been carried out in Worcestershire this year, but opportunity has also been taken of visiting farms from which enquiries on "teart" land have been received, as the "teart" land occurs on the Lower Lias formation.

(5) Shows.

Exhibits at Agricultural Shows have in every case been arranged in co-operation with the local County Authorities so that it has been possible to avoid overlapping and to provide one exhibit on agricultural education and research.

CIDER.

The number of enquiries dealt with by correspondence during the year was 261, an increase of 43 on the previous year's figures. They were distributed as follows :—

Gloucester	25
Hereford	16
Somerset	59
Wiltshire	1
Worcester	17
Other areas	143
	<hr/>
	261

In addition a large number of visitors called for information concerning cider, and several cider factories were visited during the year. In November, 1925, a cider-making demonstration was given at Long Ashton, at which about 70 visitors were present. Similar demonstrations were given to parties from Devon, Dorset and Wiltshire.

Under the scheme for the provision of local instruction in cider-making demonstrations of cider-making were provided during the autumn at several centres in Monmouthshire and Worcestershire and during the summer of 1926 visits were paid to farmers in Worcestershire (20), Monmouthshire (30), and Dorset (48). During the year also a special course of training was given at Long Ashton to Mr. Pickford, the instructor for the three counties named, and to Mr. Forshaw, who is in charge of the corresponding work in Somerset.

The enquiries received have been very similar in character to those of previous years. Practically the whole field of the subject has been covered. As last year, the planting of new and the renewal of old cider orchards, the problems of the filtration and bottling of cider, storage vessels, and the use of sulphur dioxide for preservative purposes, are probably the subjects of most concern to the industry at the moment.

Included in the above figures are a few enquiries concerned with fruit products other than cider. Most enquiries received under this

head are referred to the Campden Research Station for attention and are not included in these statistics. The cases which have been dealt with at Long Ashton have been related in some way to the work of that place.

POMOLOGY.

The number and sources of the pomological enquiries dealt with by correspondence for the year are as follows :—

Gloucester	20
Hereford	3
Somerset	23
Wiltshire	6
Worcester	9
Other areas	54
	<hr/>
	115

This figure represents but a small proportion of the actual advisory work on fruit culture now done by the Long Ashton Station. Every year large numbers of visitors call to obtain assistance on their problems, while many advisory visits are paid to growers by members of the Staff.

The predominant subject of enquiry for the year has been strawberry culture. This has undoubtedly been due to the generally unsatisfactory condition of strawberry plantations throughout the country brought about by "red plant" and other pathological troubles. Mr. Ball, the research pomologist of the Station, has given special attention to these problems and during the course of the year has visited many strawberry growing areas in this connection.

The nature of the other enquiries calls for no special comment, the subjects being of an ordinary character.

AGRICULTURAL CHEMISTRY.

During the year, 287 requests for advice were received. The sources of these are shown in the following table :—

Gloucester	94
Hereford	35
Somerset	65
Wiltshire	78
Worcester	8
Other areas	7
	<hr/>
	287

The materials examined in dealing with these requests for advice and in connection with the County work in the Province include soils, manures, limes, feeding-stuffs and an interesting assortment of miscellaneous substances.

The following samples have been received :—

Soils	..	..	..	..	..	239*
Manures	..	..	..	..	..	16
Feeding Stuffs	..	..	..	..	..	24
Lime and Limestones						27
Dairy Produce	..	..	..	..	..	9
Sugar Beet	..	..	..	..	..	33
Miscellaneous	..	..	..	..	..	15
						363

* Including soils from County Experimental Plots.

In addition to the above, 171 soils were examined in the field for lime deficiency, making a total of 534 samples examined.

The samples placed in the category of miscellaneous include the following :—

Causterising Sludge.
Material from Refuse Destructor.
Sewage Sludge.
Contents of Cows' Stomachs.
Honey.
Tar.
Silo Effluent.

A small paragraph is devoted to those miscellaneous samples with special points of interest attaching to them.

Causterising Sludge. This material is the waste product from Paper Mills in Somerset and contains about 55% calcium carbonate, 7% sodium and potassium chlorides, about 0.6% free water-soluble alkali and 32% moisture.

Material from Refuse Destructor. This material yielded the following figures upon analysis :—

Moisture	..	..	..	..	6.93%
Ash	..	..	..	..	89.95%
Total Nitrogen	..	..	..	..	0.58%
Total Phosphoric Acid (P ₂ O ₅)	..	..	..	..	3.12%
Potash (as K ₂ O)	..	..	..	..	1.60%

It is estimated that this material is worth about 6/- per ton at the farm.

Sewage Sludge. The analysis of this material was as under:—

Moisture	..	..	..	..	..	55.30%
Ash	..	..	..	..	..	28.15%
Organic Matter	..	..	..	..	..	16.56%
Phosphoric Acid (as P_2O_5)	..	..	..	..	..	0.49%
Potash (as K_2O)	..	..	..	..	..	0.22%
Carbonate of Lime	..	..	..	..	..	3.30%
Total Nitrogen	..	..	..	..	..	0.93%

Contents of Cows' Stomachs. In the two cases brought to the Advisory Chemists' notice this year it was thought by the farmers concerned that death was due to the cattle having gained access to artificial manures. In the first case, where the cows had been observed to lick bags of mangel manure standing in a field, comparatively large quantities of arsenic were found in the stomach contents, but no trace of poison was found in the manure. The matter was taken up by the County Analyst who was of the same opinion as the Advisory Chemist. In the second case a grass field had been manured with nitrate of soda and the cows were let into the field soon afterwards. In the morning, one cow was found dead, but an examination of the stomach contents and of the manure revealed that death was in all probability due to natural causes.

Tar. The washings from a freshly tarred road ran into a stream bordering a field. Young cattle which were in the field were noticed to lose condition rapidly and become very emaciated soon after the road had been tarred. Eventually, mortality occurred amongst them. The Advisory Chemist visited the place and found that the stream in question was used for drinking purposes by the cattle. It was discovered that the stream, which originally contained fairly large numbers of fish was now devoid of them and it appeared highly probable that the tar washings contained some soluble poisonous substance. At this stage the case was handed over to the Official County Analyst as it was learnt that the farmer had decided to take legal proceedings.

Silo Effluent. A sample of brown liquid, the effluent from a silo, was sent to the laboratory in order to find out whether the silage was losing much of its feeding value in the liquid draining from it. Analysis revealed that the liquid contained only 0.12% nitrogen.

GENERAL NOTES ON THE SOIL SAMPLES EXAMINED IN THE LABORATORY.

As in former years, a very large proportion of the soils examined

were those from acid areas and where farmers were seeking advice in connection with liming. Quite a number of samples have indicated general starvation of fields and the analytical data have verified subsequent field observations. A good deal of advice has been sought with reference to the sowing down of arable land to grass and the renovation of existing grass. Many of these cases have been dealt with in conjunction with the Chief Advisory Officer.

The Advisory Chemist has paid 100 advisory visits as the result of requests from farmers for advice concerning :—

- Manuring.
- Liming.
- Crop failures.
- Feeding and Foodstuffs.
- Rat Destruction.
- Treatment of grass land.
- Treatment of arable land.
- Growing of sugar beet.

The majority of these visits have been made in the company of a member of the Agricultural Staff of the County concerned. The closest relationship exists between County Staffs and the Advisory Chemist.

An active part has been taken in the experimental work in the counties, especially in connection with the treatment of grass land and the manuring of sugar beet. A uniform scheme for sugar beet manurial trials was prepared by the Advisory Chemist and this scheme has been accepted by the counties in the Province, and, incidentally, by some outside counties. Arrangements have been made whereby the sugar and dirt estimations will be made this winter at the Bristol centre and a general report prepared as to the results obtained in the Province. It is hoped to be able to publish the information.

Periodical visits have been made to the centres at which liming trials (under the Ministry's scheme) are situated. An excellent result was obtained at the centre in Worcestershire on barley. The experiment at this centre has been in existence for two years. This season, where no lime had been applied, the plot was one mass of spurrey and no barley was harvested. All the limed plots produced a harvestable crop, the maximum crop being where a dressing of lime equivalent to the determined lime requirement of the soil had been applied. On account of the striking result obtained these plots were visited in June by the Convenor of the Liming Committee of the Ministry of Agriculture and Fisheries.

Much of the "Clean Milk" work, formerly undertaken by the Advisory Chemist, was handed over to the Dairy Bacteriologist on his appointment, but some of the farm side of this work has been dealt with by the Chemist.

Soil Testing Outfits. All members of County Staffs have been supplied with soil testing outfits by the Advisory Chemist on somewhat similar lines to the "Soiltex" outfit from America. At present, however, the subject is still in the experimental stages.

Sugar Beet. As the result of a paper read before the Chemistry Committee of the A.E.A., the Advisory Chemist was appointed Convener of a Committee whose terms of reference were primarily to establish a uniform method of sampling and analysing sugar beet. The recommendations of the Committee have been circulated to Agricultural Chemists engaged on sugar beet problems and it is hoped that the results obtained from the various trials throughout the country will be in some measure comparable.

Lime Deposit in Hereford. It was reported last year that an investigation had been started in order to ascertain the economic value of a powdery limestone deposit containing approximately 90% carbonate of lime. It has now been ascertained that this deposit is unfortunately not sufficiently widespread to merit further attention.

Spotting of Sheep's Livers. A local farmer and butcher brought to the notice of this department a curious case in connection with the spotting of livers of certain of his sheep. It appeared that when the sheep were moved on to certain pastures prior to slaughter their livers were found by the butcher to be spotted. At the intimation of the Ministry of Agriculture and Fisheries, the advice of Mr. N. Bisset, Advisory Veterinary Officer, University College of South Wales, was sought. Mr. Bisset still has this problem under investigation.

Shows. Educational exhibits were prepared for the Three Counties Show at Gloucester, the Somerset County Show at Wells and the Wilts County Show at Chippenham.

HORTICULTURAL CHEMISTRY.

SOURCES OF ENQUIRY.

Gloucester (including Bristol)	..	..	..	10
Hereford	..	..	..	6
Somerset	..	..	..	16
Wiltshire	..	..	..	3
Worcester	..	..	..	6
Other areas	..	..	..	15

NATURE OF ENQUIRIES.

(a) *Soil Manurial Enquiries.*

Orchard and Fruit Plantation soils	..	..	18
Greenhouse soils	..	..	3
Market Garden soils	..	..	1
Garden soils	..	..	6
			<hr/>
			28

(b) *Miscellaneous Soil Problems.*

Soil Conditions causing Chlorosis of Fruit Trees	..	..	3
" " in cases of Leaf Scorch of Fruit Trees	..	..	4
" " " Failure of Fruit Crops	..	..	5
" " " " Market Garden and Garden Crops			1
" " " " Greenhouse Crops	..	..	3
"Suitability" of Soils for "Fruit growing	..	..	3
" " " " Market Gardening	..	..	2
Treatment of "sick" Nursery Soils	..	..	1
			<hr/>
			22

(c) *Miscellaneous Enquiries.*

Use of Ground Mineral Phosphates as Manures for Fruit Trees			1
Use of Iodine as a Manure for Fruit Trees	..	..	1
Use of Calcium Cyanamide as a Manure for Fruit Trees	..	..	1
Manurial Value of Sample of Flue Dust	..	..	1
" " " Samples of Compound Manures	..	..	3
" " " Sample of Wood Ashes	..	..	1
" " " Vegetable Refuse and Grass Cuttings	..	..	1
" " " Apple Pomace	..	..	1
Action of Lime on Meat Manures	..	..	1
			<hr/>
			11

Number of visits paid in the course of Advisory Work .. 9

Observations on Enquiries.

The total number of enquiries received was slightly below the number dealt with during the previous year.

The subjects of enquiry were generally similar to those of 1925, relating chiefly to points in connection with the manuring of fruit trees, garden and greenhouse crops, and to failures of fruit and vegetable crops.

The miscellaneous enquiries referred mainly to the manurial values of articles offered as manures for use in fruit plantations and gardens.

SPECIAL INVESTIGATIONS IN PROGRESS.

1. *Field Experiments on "The Manuring of Fruit Trees, Bush Fruits and Vegetable Crops" :—*

(a) Effect of Dung and Potash on Leaf Scorch (Expts. contd.)
—in Worcester, Hereford and Somerset.

- (b) The Effects of Spring and Autumn Dressings of Fertilisers on Apple Trees (Expts. contd.)—in Worcester.
- (c) The Effects of Artificial Manures on Bush Fruits (Expts. contd.)—in Herefordshire.
- (d) The Effects of Nitrogenous Fertilisers on Apple Trees under conditions of Low Cultivation—in Herefordshire.
- (e) The Effects of Artificial Manures on Asparagus—in Worcestershire.

2. *Various Experiments with a view to the Control of Lime-induced Chlorosis in Apple and Plum Trees*—in Worcestershire and Somerset.

3. *Survey of Soils in Fruit and Market Garden Areas on the Lower Lias Formation*—Field and Laboratory work in progress.

DAIRY BACTERIOLOGY.

The work of the Dairy Bacteriology Department has increased considerably during the past year, 2,391 milk samples having been examined as compared with the 734 samples dealt with during the previous year.

(a) *Bacteriological and Chemical Examination of Milk Samples.*

1,623 samples have been examined in connection with :—

(1) Clean Milk Competitions	1,062
(2) Farmers holding, or desirous of obtaining, licences for the production of graded milks	203
(3) Milk Recording Societies	358

(b) *Advisory Work.*

During the year 47 visits have been made to farms in connection with various milk problems. These visits, together with requests for advice from farmers, have resulted in the examination of 768 samples from an advisory standpoint. With these are included 191 samples examined in connection with a feeding experiment carried out by the Advisory Chemist and the Agricultural Organiser for Gloucestershire.

The following is a list of problems which have been investigated :—

Tubercular Milk	6 cases
Mastitis	8 ..
Milk Taints	10 ..
Milk of poor keeping quality	1 ..
Cheese-making problems	2 ..

Two of these call for special mention: viz., the cheese-making problem and one case of low "solids not fat." The former has now resolved itself into a question of the buffer salts present in the milk.

The latter problem involved a complete chemical examination of several milk samples. Chemical analyses carried out by the Advisory Chemist revealed a low protein content. The milk appeared normal in every other respect including the magnesium, calcium, phosphate and chloride contents.

(c) *Parasitic Disease of Animals.*

In the absence of a Veterinary Officer several diseases of a parasitic nature were referred to the Dairy Bacteriologist. These were dealt with in collaboration with Dr. W. D. Henderson, Department of Zoology, The University, Bristol.

(d) *Lectures.*

Two series of lectures on the "Production of Clean Milk" have been given by the Dairy Bacteriologist in connection with Courses for Sanitary Inspectors held in Bristol.

(e) *Agricultural Shows.*

The Dairy Bacteriologist has been responsible for exhibits at the County Shows dealing with the production of "Clean Milk" and the examination of milk samples.

ECONOMIC ENTOMOLOGY.

The number of letters of enquiry dealt with during the year was 177, distributed among the Counties as follows:—

Gloucester	35
Hereford	14
Somerset	32
Wiltshire..	10
Worcester	26
Other counties	60
	<hr/>
	177
	<hr/>
Number of Farms visited	94

The number of enquiries shows an increase of 6 when compared with last year. Very few enquiries were received from the County Officers. Enquiries from other Counties were dealt with as stated in the report on Economic Entomology last year. Much information

has been given to growers on their own plantations and farms, and numerous enquiries of visitors to the Research Station plantations have been answered.

The most serious pests of the year were as follows :—

Capsid Bugs (Plesiocoris rugicollis). *Plesiocoris rugicollis* has again been widespread throughout the Evesham, Pershore and Cheltenham districts and in the County of Hereford. Capsids also did considerable damage to raspberry canes in the Cheltenham district. Thus the situation throughout the Province is similar to that of last year. It would appear that the bugs continue to spread to other areas.

Codling Moth (Cydia pomonella). Damage to apples by this pest has again been serious, especially that caused by the attacks of the second brood. Many growers who sprayed their trees with Lead Arsenate as soon as the petals had fallen suffered badly, in spite of this treatment, from the second brood. The prolonged flowering period probably accounted for this as it was difficult for growers to spray more than a portion of the tree at the proper time.

Ground Beetles (Harpalus ruficornis). This beetle, by eating the surface of strawberries, did very considerable damage to fruits at Cheddar. From 70-80 per cent. of the crop was damaged in some beds. The attacks often started near a hedgerow and spread across the plots. The damage was further accentuated by fairly bad attacks of slugs.

Strawberry Aphis (Capitophorus fragariae). This aphis has been a serious pest and of general occurrence throughout the Province. The varieties of strawberries which suffered most from its ravages (in order of susceptibility), were Madame Kooi, Laxtonian, Royal Sovereign, Paxton, Stirling Castle and President. Observations indicate that the varieties Tardive de Leopold, Lord Overton, Sturton Cross and Aberdeen Standard appear to be resistant to attacks of Strawberry Aphis. Reference is made later to special investigations on this pest.

Pear Midge (Contarinia pyricora). This pest continued to increase. An account is given later of the work which has been carried out to date in the field during the season.

Black Currant Aphis (Capitophorus ribis). Where growers did not spray with an efficient tar-distillate wash during the dor-

mant period, infestations of this aphid were widespread and very heavy.

Woolly Aphid (Eriosoma lanigera). Infestations by this aphid have increased as compared with those of last year.

Rosy Apple Aphid (Anuraphis roseus). This aphid, which has caused serious damage throughout the Province, was much more severe than it has been for two years.

Cherry Fruit Moth (Argyresthia ephippella). Enquiries concerning Cherry Fruit Moth have been received from the Evesham district, where the pest seems to be increasing. Though tar-distillate washes appear to have exercised some control over the pests, experiments are necessary to determine more exactly the effects of such washes on this insect.

Approximately one third of the enquiries received referred to the following subjects :—

- Sprays.* Tar-distillate washes for winter use.
Oil sprays for spring and summer use.
- Pests.* Strawberry Aphid.
Capsid Bugs.

The remainder of the enquiries referred principally to the following :—

(a) PESTS WITH REFERENCE TO SPECIFIC PLANTS.

Host Plant.		Pests.
Apple	.. ..	Apple Sawfly (<i>Hoplocampa testudinea</i>)
"	.. ..	Winter Moth (<i>Cheimatobia brumata</i>)
"	.. ..	Permanent Apple Aphid (<i>Aphis pomi</i>)
"	.. ..	Apple Blossom Weevil (<i>Anthonomus pomorum</i>)
"	.. ..	March Moth (<i>Anisopteryx aesculi</i>)
"	.. ..	Feathered Thorn Moth (<i>Himera pennaria</i>)
"	.. ..	Peppered Moth (<i>Pachys betularia</i>)
"	.. ..	Leaf-eating Weevils (<i>Phyllobius oblongus</i>)
"	.. ..	Leopard Moth (<i>Zeuzera pyrina</i>)
"	.. ..	Mussel Scale (<i>Lepidosaphes ulmi</i>)
Apple and Black Currant	.. ..	Capsid Bugs (<i>Plesiocoris rugicollis</i> and <i>Lygus</i>)
Plum	.. ..	Mealy Plum Aphid (<i>Hyalopterus pruni</i>)
"	.. ..	Leaf-curling Plum Aphid (<i>Anuraphis prunina</i>)
Black Currant	.. ..	Big Bud (<i>Eriophyes ribis</i>) and Reversion disease.
"	.. ..	Capsid Eggs.
Pear	.. ..	Pear Leaf Blister Mite (<i>Eriophyes pyri</i>)
Ash	.. ..	Sawfly larvae
Gooseberry	.. ..	Gooseberry Aphid (<i>Aphis grossulariae</i>)
"	.. ..	Gooseberry Sawfly (<i>Nematus ribesii</i>)
Asparagus	.. ..	Asparagus Beetle (<i>Crioceris asparagi</i>)

Host Plant.	Pests.
Chrysanthemum ..	Chrysanthemum Aphis (<i>Macrosiphoniella sanborni</i>)
Various Brassicae ..	Cabbage Gall Weevil (<i>Ceuthorrhynchus sulcicollis</i>)
Clover	Clover Weevil (<i>Silones lineatus</i>)
Potato	Slugs
Willow	Willow Aphis (<i>Cavariella capreae</i>)
Carnation	Caterpillars (<i>Tortrix pronubana</i>)
Aster	Cutworms (<i>Agrotis</i> spp.)
Mushroom	<i>Sciara</i> sp.

(b) MISCELLANEOUS.

House Mite (*Glyciphagus* sp).
 Lime and Privet Hawk Moths.
 The Large Red Ichneumon (*Ophion luteus*).
 Arsenate Sprays, combination sprays, lime-sulphur sprays.
 Spraying soaps, nicotine sprays, casein spreaders and colloidal sulphur.
 Cyanide fumigation.
 Spraying machines.
 The effect of orchard sprays on poultry running beneath the trees.
 Arsenic on apples.
 Insecticide dusts.
 Fleas in a pig-sty.
 Ointment for use against Warble flies.
 Leather-Jackets damaging lawns.
 Dipping of strawberry runners.
 Poison baits for slugs.
 Soil fumigants.
 Grease banding.
 Bird damage to filberts and cobs.

FIELD INVESTIGATIONS AND TRIALS CARRIED OUT IN THE COUNTIES.

CAPSID BUG (*Plesiocoris rugicollis*).

During the year spraying trials have been carried out in the Bristol Province against *Plesiocoris rugicollis*.

Experiments.

A. On Apples.

I. Use of a tar-distillate wash at 10 per cent. strength, applied in winter as an egg-killing wash. The brand found to be most effective in 1924-25 was used. These experiments were carried out in Gloucester, Worcester and Hereford.

II. Use of an Oil Spray against the bugs in the spring.

B. On Black Currants.

I. A tar-distillate wash as used for the experiments on apples. These experiments were carried out in Worcester and Hereford.

The results of these experiments are as follows :—

A. I. Experiments with a tar-distillate wash at 10 per cent. strength on apples.

The experiments have confirmed the results obtained last year, which were that a good control of capsid bugs can be effected by certain tar-distillate washes, used as egg-killing washes, at 10 per cent. strength. The obtaining of such a control by such sprays is not certain, presumably because certain weather conditions following the spraying operation appear to render the spray relatively innocuous.

II. Use of an oil spray against the bugs, in the spring, on apples.

The experiments were designed to test further a proprietary oil spray as a spring spray against capsid bugs. It was found impossible to carry them through because the consignment of oil spray supplied for the purpose was faulty and could not be emulsified satisfactorily. Damage resulted in those instances where it was applied. Samples of this proprietary oil were used with success in last season's experiments.

B. I. Experiments with a tar-distillate wash at 10 per cent. strength on black currants.

The experiment in Hereford yielded no results, the pest not being present on the controls, in spite of a severe attack the previous year.

The experiment in Worcester had one feature of particular interest. A plantation of apples, inter-planted with black currants was sprayed. The spray fluid used was identical in both cases and the trees and bushes were treated on the same occasion.

The tar-distillate washes exercised little control over Capsid eggs on black currants, while effecting a good control of the eggs in the case of the apples.

TAR-DISTILLATE WASHES FOR WINTER USE.

Experiments with these washes were distributed among the counties as follows :—

Gloucester	..	..	..	2
Son erset	..	..	..	1
Wiltshire..	..	..	..	2
Worcester	..	..	..	2

The trials were in continuation of last year's experiments with the washes as a control for aphid, apple sucker and caterpillars on apples, and aphid and caterpillars on plums. The two brands of these washes found to be most effective in the past seasons' experiments have been used for these further trials in collaboration with the Research Entomologist and the County Officers. The planning and supervision of the individual trials were carried out by the writer. The results were examined both by the Research Entomologist and by the writer, with the help of the County Officers, in some instances. A full account of these results will appear elsewhere.

Pear Midge (*Contarinia pyrivora*). A preliminary experiment was carried out in collaboration with the Research Entomologist in the Evesham district of Worcestershire on the use of essential oils and other substances as possible attractants for Pear Midge. The substances were mixed with banding grease and exposed on boards hung in the trees. Out of the sixteen possible attractants tested, oil of bitter fennel, clove oil and nitro-benzene (oil of mirbane) proved to be of sufficient promise to justify further experiments next year. In addition to these it is proposed to test other possible methods of controlling the pest in 1927.

Strawberry Aphid (*Capitophorus fragariae*). Field work in connection with Strawberry Aphid has taken chiefly the form of observation work in order to obtain information as to the distribution of this pest and the extent to which it is responsible for the troubles which strawberry growers are experiencing. A considerable number of visits have been made in connection with this work.

Willow Aphid (*Cavariella capreae*). A trial was carried out in the principal willow-growing district of Somerset, which had as its objects the testing of a new and improved method for the spraying of willows and the further testing of rape oil emulsion at $\frac{1}{2}$ per cent. strength as a control for Willow Aphid. Similar experiments were carried out on the willow plots at Long Ashton. The work carried out last year, and referred to in last year's report, remains ready for publication.

Hop Aphid (*Phorodon humuli*). A trial was carried out in Hereford against this pest. The sprays used were two oil sprays, one of which was a proprietary one.

The oil in each case was used at a strength of 1 in 200 (i.e., $\frac{1}{2}$ per cent.), as it had been found in previous trials that no damage resulted from such treatment. The non-proprietary oil spray was crude rape oil. The method of mixing is referred to in the section of this report dealing with work on oil sprays. In each case the oil spray, when finally prepared, had 1 per cent. of "free" soap present in order to ensure that thorough wetting took place. The water was of medium hardness.

The sprays were applied to two rows of hops, each containing some fifty hills. The remainder of the garden, which was considered an ample control, was not sprayed. The sprays were applied with an ordinary hand-pumped tank sprayer, giving a pressure of from 50-60lbs. to the square inch. A medium-fine nozzle was used, as it has been found that a coarse nozzle is not so effective for the application of oil sprays. The date of application of the sprays was June 29th, 1926. The day was fine and very hot, with little wind.

The bines were examined on June 30th, 1926, when it was found that no damage to the bines had resulted, nor did any appear at any future date. The kill was very satisfactory, and in the case of both sprays, was practically 100 per cent.

The costs of these oil sprays compare very favourably with a nicotine wash used at a strength of 5 ozs. to 100 gallons, where the amount of soap required is the same as for the oil sprays, the costs of the former being approximately half the cost of the latter.

It is hoped that during the coming season it may be possible to carry out trials which will furnish figures necessary to compare the efficiency and costs of dusting and wet spraying with oil sprays at low strengths.

RED SPIDER (*Tetranychus altheae*) ON HOPS.

(a) *Trials with Oil Sprays.*

It was thought possible that oil sprays might furnish an efficient control for Red Spider on hops and, with this end in view, arrangements for an experiment were made in Herefordshire.

As a preliminary trial a number of male bines were sprayed with oil sprays of different strengths. Sulphur compounds were added to some of the sprays.

Details of treatment and results are summarised in the following table :—

NUMBER OF STOCKS SPRAYED.	SPRAY.	EFFECT.
10	1% Rape Oil Emulsion.	No scorching.
5	1% Rape Oil Emulsion with Sodium Polysulphide at rate of 1 in 80.	Scorched.
5	1% Rape Oil Emulsion with Ammonium Polysulphide at rate of 1 in 200	Badly scorched.
10	2% Rape Oil Emulsion.	Slightly scorched.
2	5% Rape Oil Emulsion.	Very badly scorched.

The sprays were applied on May 21st, 1926, and examined a fortnight later. Where stocks were scorched they grew away from the damage, but the leaves and embryo laterals to which the spray was actually applied were spoilt. From the results presented in the above table it will be seen, therefore, that 1 per cent. or less, was a safe strength at which to apply rape oil emulsion to hops, but the addition of sulphur compounds to the 1 per cent. emulsion produced scorching.

Preparations were made to test 1 per cent and $\frac{1}{2}$ per cent. rape oil emulsion on a larger scale against Red Spider. The pest, however, did not appear in sufficient numbers and the spraying was not continued. It is proposed to attempt to carry out the experiment in its entirety next season.

(b) Trial with Calcium Cyanide.

To test the effect of calcium cyanide, fifty hills were treated with it at the rate of 2ozs. per hill on March 24th, 1926. The cyanide was scattered by hand and immediately scuffled in.

The treatment aimed at the control of the Red Spider in the soil before its migration upwards.

As stated above, Red Spider did not appear in sufficient numbers to obtain a result. No damage to the stocks resulted.

Woolly Aphis (*Eriosoma lanigera*). A preliminary trial of the use of para-di-chlorbenzene as a soil fumigant against the root form of Woolly Aphis, was carried out in Hereford in collaboration with Mr. J. F. Goaman, Ministry of Agriculture.

The experiment showed that a good control was exercised by the fumigant, without injury to the tree. The results are sufficiently promising to warrant a continuation of the work.

A cheap and effective control of the root form of this pest would seem to be possible by the use of para-di-chlorbenzene.

FIELD AND LABORATORY WORK AT LONG ASHTON.

Strawberry Aphis (*Capitophorus fragariae*). During the last season work on this pest has been carried out and the effects of strawberry aphis on the strawberry plant have been investigated. This work will be published shortly in the Journal of Pomology.

Work on this pest, with special regard to control measures, will be continued during the coming season.

Recently, a new disease of the strawberry has been described in California.* The disease is known there as "Strawberry Yellows" and, as far as can be seen from the account and illustrations given, the symptoms are identical with those described in the paper referred to above. The disease is now accepted, in California, as being caused by a virus, probably carried by insects. An aphis (*Myzus fragaefolii*), is thought to be the principal vector. The view of the writer of this report is that the present available evidence obtained during the season's work does not justify such symptoms being attributed to virus action in any of the many cases examined by him, or in the experiments which have been carried out. This aspect of the problem will receive special attention next year. Some of the evidence against the theory of virus action will be found in the work to be published shortly in the Journal of Pomology.

BLACK CURRANT APHIS (*Capitophorus ribis*) as a Vector of Reversion Disease.

Cross infection experiments to test the possibility of *Capitophorus ribis* being a vector of Reversion Disease are being carried out by the Research Entomologist. The writer of this report suggested that the study of the method of feeding and the source of the food-supply of this aphis might be expected to furnish information likely to be of use in the investigation, for which reason the source

* Plakidas, A.G. :—"Strawberry Yellows." A Degeneration Disease of the Strawberry."

Phytopathology—Vol. 16; No. 6.

of the food-supply and the method of feeding have been worked out in the case of the apterous viviparous female. Similar information will be obtained in respect of the winged forms of the aphid next season.

Strawberry Eelworm (*Aphelenchus fragariae*). The work on the hot water treatment of runners has been completed. It was found impossible to obtain a temperature and time for treatment which would give a 100 per cent. control of the eelworm without injury to the plant. Interesting results, however, were obtained with regard to the effect of the partial or complete killing of the roots on the type of foliage produced. These results are of interest when considered in relation to various types of disease present in the strawberry and particularly in connection with Strawberry Aphid and Strawberry Eelworm. It is hoped to refer to these results in some future paper.

A Cecidomyid Fly Associated with Damaged Worked Buds on Apple and Plum.

During the last "budding" season at Long Ashton a high percentage of the failures were associated with the larvae of a Cecidomyid fly. The larvae were found under the bark of the stock, apparently causing the death of the cambial tissues. In some cases the larvae were found under the bud. The presence of the larvae was in all cases associated with the failure of the bud to "take," the bud being in a dead or dying condition.

A common mould was present in all cases wherever larvae were found. As far as could be seen the larvae appeared to be primarily responsible.

Methods of control have been devised and tested during the season with the assistance of Mr. E. Umpleby, Propagator and Assistant Recorder at this Station. The buds were painted with the following immediately after tying:—

- (a) Vaseline.
- (b) Lead Arsenate.
- (c) Coconut Oil.
- (d) Palm Oil.
- (e) Coconut Oil containing 1 per cent. of Phenol.

Buds untreated were left as controls. The vaseline treatment shows great promise of being entirely successful, no damage to the bud taking place. The treatment appears to prevent the appearance of the fungus as well as the larvae of the fly, but a further season's trial on a larger scale is necessary before any recommendations can be made.

AGRICULTURAL SHOWS.

Exhibits were staged and attendance made at the following Agricultural Shows :—

Three Counties Show, Gloucester.
 Wilts County Show, Chippenham.
 Somerset County Show, Wells.
 Imperial Fruit Show, London.

ECONOMIC MYCOLOGY.

Numbers of Enquiries.

The total number of enquiries dealt with by post during the year was 182.

Sources of Enquiries.

Gloucester	..	..	..	..	..	53
Hereford	..	..	..	..	..	16
Somerset	..	..	..	..	..	37
Wiltshire..	..	..	..	..	..	17
Worcestershire	..	..	..	..	..	35
Other Counties	..	..	..	..	..	24

 182
Visits.

Visits paid to farmers and growers, 130.

General Observations on Enquiries.

The number of enquiries shows an increase on last year of 66. The majority of the enquiries were from fruit growers, market gardeners, nurserymen and private gardeners. It is noticeable that only 18 enquiries were received from the five county authorities, of which 11 were received from the Gloucestershire County Agricultural Authority.

During the present year the exceptional weather conditions have been reflected in the serious outbreak of many fungus diseases. The very prevalent occurrence of "Brown Rot" of fruits may be attributable in part to the splitting of the skin of apples and plums, brought about by the weather conditions which prevailed. Briefly reviewed, these conditions consisted of a prolonged cold spring, lasting up to the end of June, followed by a spell of warm summer weather. This soon broke to warm damp conditions, lasting till the end of September.

Observations on the more important diseases are as follows :—

(1) *American Gooseberry Mildew.* An exceptionally early outbreak was reported from the Evesham district on March 15th,

the variety attacked being "Whinham's Industry." The disease frequently appeared to have obtained a hold before the setting of the flowers. Losses due to this disease have been very heavy and a cheap and efficient control is urgently needed. Owing to the ravages of the disease many growers are giving up the cultivation of the variety "Whinham's Industry," on account of its susceptibility to the Mildew.

(2) *Apple Mildew*. This year has seen what is probably one of the worst attacks of apple mildew in the Province within recent years. The more severely attacked varieties were Bramley's Seedling, Bismarck, Allington Pippin and Cox's Orange Pippin.

(3) *Apple and Pear Scab*. This disease has again been serious and particularly severe losses have been experienced on commercial plantations of Worcester Pearmain.

(4) *Fruit Rots*. Partly owing to the exceptional weather conditions mentioned above, a large amount of fruit cracking occurred among apples and plums. As would be expected, during the warm damp weather, a severe attack of Brown Rot (*Monilia fructigena*) broke out. From all parts of the Province reports were received of fruit being affected while still on the trees, whilst fruit drop due to this fungus was very considerable. A large proportion of the fruit sent in for examination was found to be infected with *Monilia fructigena*. The "black rot" form was frequently present.

In addition to the common fruit rot, *Monilia fructigena*, a number of cases have been observed of an "eye rot" of apples—the causal organism of which is thought to be *Nectria galligena*. The disease, which occurs commonly on the variety Worcester Pearmain, is manifested by a sinking in of the flesh in the region of the eye. The skin in the infected area is discoloured a light brown. Large numbers of small whitish pustules, bearing conidia, which do not differ morphologically from those of *Nectria galligena*, are formed on the surface of the affected area. Though the perfect stage of the fungus has not yet been formed in pure culture there seems to be little doubt that the causal organism is *Nectria galligena*. Ripe perithecia of this fungus have been found on mummied apples by Mr. Dillon-Weston.

An eye rot of pears was observed in a perry orchard in Gloucestershire. In this case the rot attacked half ripe pears while on the tree. Though no sporodochia were formed on the fruit a fungus identical with *Nectria galligena* was isolated from the diseased tissue.

In 1925, a considerable amount of work was done on a rot of pears similar to the one described above on apples by Dr. Britton-Jones and the writer. It seems probable that the 1925 rot of pears is identical with that found in 1926 on apples. Parallel culture and cross inoculation work is now in progress to establish the exact identities of these organisms. It would appear that under certain conditions this disease may become a serious menace. As far as the adviser is aware, no instance of a rot of this nature was recorded in the Bristol Province until 1925, when a single case referred to above was brought in by Mr. A. H. Lees.

A "Black Rot" of Worcester Pearmain apples has also been received from Herefordshire. It was observed by the grower on the fruit during packing. In this rot, skin of the apple in the affected area becomes quite black and dotted over with numbers of minute immature picnidia. Though affected apples have been kept many weeks these fruit bodies have not reached maturity. The flesh of the apple becomes black and spongy, but there is very little drying out of the tissue until the final stage is reached. The mycelium permeating the flesh is coarse dark olive green and contains innumerable oil globules. Isolations and inoculations into living apples and apple twigs have proved the pathogenicity of the organism. Its identity, however, cannot be established until mature fruit bodies are formed. It was suggested that the fungus might be *Physalospora cydoniae* (*Sphaeropsis malorum*) which is known to cause a black rot of apples in America. A culture of this latter fungus was obtained from the Pure Culture Station at Baarn. Parallel cultures and inoculations showed that these two fungi were not identical.

An unusual form of the *Phytophthora Rot* of pears has been observed. When first examined only the skin of the fruit was discoloured, the flesh below being quite firm and white. Minute flecks of discoloured vascular tissue occurred in the flesh of the pears. In addition to these the endocarp was also discoloured brown. The fungus was isolated from the skin and also from the vascular tissue in the healthy flesh. Superficially it has all the appearance of a physiological disease until pustules of sporangio-phores burst through the skin. The name "Hard Rot" given by the grower is appropriate.

(5) *Bud Rot of Apples*. A bud rot occurring on the variety Bramley's Seedling has been noticed in Somersetshire. In this disease, the inflorescence buds are attacked some time before they

are due to open. These diseased buds fall off at a touch, the diseased tissues apparently being cut off by a cork-layer. The stopping of the truss causes an adventitious bud at the base to break, producing a short shoot. In a bad case up to 30% of the buds were affected. A fungus has been isolated from diseased buds, but it has not yet been possible to carry out any inoculation experiments. Severely affected trees were those which appeared to be in a "nitrogenous" condition, growing in humid sheltered situations. The organism isolated and the general appearance of the disease is distinct from that of the familiar *Fusarium* Bud Rot of apples.

(6) *Rusts*. An early and extraordinarily severe attack of the common plum rust (*Puccinia pruni-spinosae*) occurred in the Province. In some cases complete premature defoliation of the trees took place. It was observed that while Victorias were most severely attacked, Monarchs showed a fair degree of resistance. In one plantation the attack was observed to start on the trees which were growing in close proximity to a bed of anemones.

Severe attacks of "rusts" have occurred on many host plants, both economic and otherwise. Heavy attacks have been reported on rye grass and cocksfoot, impairing the feeding qualities of the pastures. The attacks appear to be more severe on temporary leys than on old permanent grass. This may be due to nonindigenous seed, grown in drier parts of the country, being more susceptible when grown in the moister Western Counties.

(7) *Raspberry Diseases*. Few cases of "raspberry die back" have been observed during the period under review and no fresh outbreaks of *Nectria rubi* have come to the adviser's notice.

In one particular case of "Die Back" and "Crown Rot," in the variety Lloyd George, white pustules were to be seen bursting through the bark at the base of the canes. These pustules proved to be the sporodochia of a species of *Fusarium*, bearing hyaline 2-3 septate spores measuring 37μ . by 5μ . These spores are slightly attenuated at one extremity. They correspond in size and shape to those of a species of *Fusarium* described by Wormald* on the crowns of diseased raspberry canes. The fungus has been isolated and grown in pure culture. Morphologically and in cultural characteristics it bears no resemblance to the conidial stage of *Nectria rubi*.

* Wormald.—Wilting of Raspberry and Loganberry Canes.
Journal of S.E.A. College, Wye. No. 22, 1913.

The "anthracnose" of Raspberries (*Gleosporium venetum*), has done a considerable amount of damage on certain varieties, notably "Baumforth."

The Mosaic disease of Raspberries is very widespread in the Province and there seems little doubt that much of the falling-off in yield and susceptibility to other diseases is due in part to this insidious trouble. Few growers seem to recognise in it a pathological symptom and hence they have no hesitation in propagating from diseased stools.

(8) *The White Root Rot (Rosellinia necatrix)*. This fungus, which has previously been recorded as causing a root rot of apples in this Province, has been found attacking and causing a root and tuber rot of potatoes.

(9) *Rhizoctonia Solani*. A case of this fungus attacking the roots in addition to the tubers of potatoes was received from Herefordshire.

(10) *Rhubarb Crown Rot*. An outbreak of the Rhubarb Crown Rot has occurred in the Pershore district, probably through the importation of infected sets from the North of England.

(11) *Die Back of Apples (Monilia cinerea)*. An interesting case of Die Back of apple twigs was observed in Worcestershire. The symptoms were similar to those observed in Somerset in 1925, to which reference was made.† In early summer the foliage on the diseased current year's wood is withered for a distance of up to two feet from the tip. At the base of this dead portion a canker occurs. There is no sinking in of the tissue as in the case of a canker caused by *Nectria galligena*. Infection appears to take place through a bud or spur from which centre a series of fine black wavy lines radiate. From these cankers the fungus *Monilia cinerea* was isolated. Such withered twigs, which may number up to 15% of the whole, stand out in strong contrast against the healthy foliage.

(12) *Foot Rot of Wheat*. Serious loss has been brought about this year by the "foot rot" of wheat. It has been particularly noticeable in the large corn growing districts in Wiltshire. Examined casually, the crop appears to be normal, but disappointing yields are obtained when the corn is threshed out, a large proportion being classed as "chicken corn." *Ophiobolus cariceti* is the chief organism responsible.

† Report of Adviser in Mycology—Station Report, 1925.

(13) *A Canker of "Head Worked" Trees.* A disease of trees that have been cut back and head-worked has been observed in parts of Herefordshire. The disease takes the form of a shallow canker on the old wood just below the graft. It only occurs on those branches which have had the "feather" removed. The presence of this feather, doubtless by keeping up the flow of sap, makes the wood resist fungal attack.

Growing on the surface of the canker are a number of small olive-green picnidia containing oval hyaline conidia, 10-14 μ . by 7-8 μ . This fungus has been identified by Miss Wakefield as *Fuckelia conspicua* Marchal. It has not been recorded hitherto as forming a canker on apples. Since it is probable that large numbers of trees will be headed back in the future the disease described above may become serious and growers are advised to remove any of the young woody shoots until the grafts are well established.

(14) WILLOW DISEASES.

During the period under review a number of willow diseases have been brought to the adviser's notice by Mr. H. P. Hutchinson, the Willow Research Officer.

In addition to the fungus *Melampsora* on leaf and rods, which causes serious damage to willows in Somerset, the following fungi have been observed :—

1. *Physalospora* sp. This disease has always been present to a greater or less extent in the Somerset willow districts, forming large cankers on the rods.

This year, however, a serious form has been observed on the Long Ashton willow beds. The one year shoots and wood have been most seriously affected. The fungus appears to start as a diseased patch on a leaf, travels down the midrib and petiole to the stem, where a canker is formed. A "die back" may be caused from the tip of the youngest shoots. So severe has been the attack in some cases, that certain stools have produced nothing but shoots 12-18 inches in length instead of the fully grown rods.

2. *Black Canker (Unidentified).* From time to time cankers have been examined from which a fungus has been isolated which is quite different from *Physalospora* sp. mentioned above. Inoculations show that this fungus is pathogenic and capable of producing cankers.

3. *Anthracnose*. An Anthracnose has been observed on rods of the variety "Red Welsh." In the centre of each spot occur acervuli bearing curved uniseptate conidia, averaging 12.25μ - 17.5μ by 5.25μ - 6μ , with lower cell much smaller than the upper.

Morphologically this fungus agrees fairly closely with *Marssonina salicicola*, *Bresd.*

A number of diseased rods were planted further to study the disease but, unfortunately, these were destroyed by fire.

4. *General*. From cankers on willow rods the fructifications of the following have been found :—

- (a) *Cytospora* sp.
- (b) *Hendersonia* sp. identical with *H. rubi*.
- (c) *Coniothrydium* sp. „ „ *C. fuckellii*.

The latter fungus, *Coniothrydium*, was isolated and inoculations made showed that it was capable of forming a canker, but that the cankered portion was quickly cut off by a cambial layer.

SPECIAL INVESTIGATIONS CARRIED OUT IN 1925-26.

(1) *Brown Rot Spraying Trial*. A spraying trial was carried out in Gloucestershire on the control of "wither tip" and "brown rot" of plums (caused by *Monilia cinerea*).

The trial plot consisted of 108 Victoria plum trees, 12 years old. Two control belts of 24 trees were left unsprayed. During 1924 the trees had been badly affected with the "wither tip" disease.

The trees were sprayed in mid-January with 6% Mortegg. The plot was examined in May. Though only a few fresh infections of *Monilia cinerea* were to be seen on the control trees on this occasion, the sprayed trees were very much cleaner. The amount of "wither tip" on the control trees was not sufficiently great to permit of a numerical comparison with that on the sprayed trees. The effect of the spraying was also somewhat masked by the almost complete control of plum aphid.

(2) *American Gooseberry Mildew Spraying Trials*. Spraying trials for the Control of American Gooseberry Mildew were again carried out at Cheltenham.

A full account of these trials is given elsewhere.

(3) *White Rot of Onions: Immunity Trials*. A further trial on the immunity of varieties of onion to the White Root Rot

disease (*Sclerotium cepivorum*) was carried on in collaboration with Mr. E. Holmes-Smith, Adviser in Agricultural Botany, Manchester University.

(4) *Apple Scab Spraying Trial*. A large scale trial on the control of Apple Scab was planned in collaboration with the Agricultural Organiser for Worcestershire. Some 350 trees of the variety Worcester Pearmain received two applications of an Excess Lime Bordeaux Mixture, made to the 8-25-100 formula.

The first application was given on April 14th, the trees then being in the "pink bud" stage. The second application was given on May 20th.

Although an excellent control of the Black Scab fungus was obtained, cracking of the fruit took place on the sprayed trees to such an extent that much of the fruit was useless. The reasons for this result are not clear; Bordeaux Mixture, made to the above formula, has been used in previous years on Worcesters without damage. Although fruit on the Control trees was not cracked, much similar cracking occurred elsewhere on unsprayed trees. The peculiar weather conditions are thought to be chiefly responsible.

(5) *Experiments on the Use of Oil Sprays in Controlling Scab*. A preliminary experiment was carried out in collaboration with Mr. L. N. Staniland on the use of certain oil sprays as fungicides.

1. A copper soap dissolved in rape oil and subsequently emulsified.
2. The application of a rape oil emulsion as a cover spray after an application of Bordeaux Mixture.

The results obtained warrant a further trial next year.

(6) *Raspberry Diseases*. Further experimental work has been carried out on the pathogenicity of the fungus *Nectria rubi*.

Twenty-five plants each of the varieties Worcester Prolific, Red Antwerp and Bath's Perfection were potted up in ten inch pots in the autumn of 1925. These were inoculated in February two inches below soil level by placing the inoculum in a cut in the "crown."

The following inocula were used :—

1. Agar plates of ascospores from mature perithecia found in nature were poured. In eight days separate individuals were about 4mm. in diameter and sporing abundantly.

A separate individual was used for each inoculation.

2. One mature perithecium crushed and placed in the wound.
3. A small wedge of raspberry root culture bearing mycelium and conidia.

One series of ten pots was treated with an overdose of ammonium sulphate to check the plant, and another series was placed in a trough containing six inches of water to simulate severe water-logging conditions.

In no case up to the present has a definite "take" of *Nectria rubi* resulted.

It is interesting to record that in the waterlogged specimens the pathological symptoms of marginal leaf scorch and small leaf were produced. Examination of the waterlogged specimens also showed a purple discolouration of the roots which frequently occurs in plants suffering from "Die Back" in the field. From these roots a *Coniothyrium* was isolated. The conditions under which *Nectria rubi* may become pathogenic, if at all, have yet to be determined.

(7) *Asparagus Diseases*. Several asparagus beds in the Evesham district were visited by the Adviser during the year in the investigation of the Asparagus soil Sickness Problem. It is generally accepted that the causal organism is the fungus *Rhizoctonia crocorum*, though it is by no means proved that this is the only parasite. Mr. G. C. Maltby has found perithecia of *Zopfia rhizophila* (Rabenh) on diseased roots and the writer has isolated an undetermined *Fusarium* from brown discoloured patches on otherwise healthy roots. This latter fungus strongly suggests a root parasite. In culture the spores are slightly curved 3-4 septate and measure 35μ - 52μ from point to point and 3μ - 4μ in width. Inoculations to test the pathogenicity of this fungus are being carried out.

In order to carry out preliminary tests on soil treatment a supply of soil from two badly affected plots of land in the Evesham district was obtained and potted up in large ten inch pots. It being considered desirable to demonstrate the presence of *Rhizoctonia crocorum* in the soil before attempting any kind of soil treatment, these pots were all sown with carrots. Previous experiments had shown that *R. crocorum* readily infects carrots. These carrots will be harvested and examined in the autumn.

In connection with the Control of soil fungi a visit was paid to the Lea Valley Research Station at Cheshunt. Much information and advice was given by Dr. Bewley and his staff.

Since "Soil Sickness" of asparagus land is undoubtedly due to soil dwelling fungal parasites, the problem can be approached in at least two ways

(a) by soil treatment,

(b) by genetics.

It is doubtful if a cheap and efficient soil steriliser will be produced which can be used on a field scale. It seems that the problem will ultimately be solved by the evolution of resistant varieties.

With this end in view an experimental asparagus plot has been started at the Research Station, Long Ashton. This has been planted up with well known commercial varieties, free from disease and true to name. This plot will be of great value for future work on the resistance and susceptibility of varieties to root diseases.

(8) *Investigations on Willow Diseases.* Work has been done on the life history of the Willow Canker Fungus—*Physalospora* sp.

A detailed study has been made of the species of *Physalospora* responsible and its connection with a *Gleosporium* conidial stage has been proved by cultural work. Inoculation experiments have shown that both ascospores and conidia can infect leaves and growing points without the intervention of wounds. The exact identity of the species of *Physalospora* responsible for the willow canker in Somerset has not yet been determined.

Physalospora gregaria, Sacc., has not been seen by the adviser on any of the willow material examined by him.

Monospore cultures have been made from ascospores and conidiospores. In both types of culture mature perithecia have been produced.

(9) *Trial of Immunity of Swiss Varieties of Potatoes to the Late Blight (Phytophthora infestans).* At the request of the Ministry of Agriculture certain Swiss varieties of potatoes said to be immune to the Late Blight (*Phytophthora infestans*) were grown at Long Ashton.

Two pounds of seed of eleven varieties were grown. These were interplanted with rows of the variety King Edward.

Observations on the incidence of the disease and crop weights were obtained.

The King Edward row to the extreme west was artificially infected with the late Blight Fungus at the beginning of August. On August 11th a small amount of the disease was noticed on the variety "Welt wunder."

Observations were made on August 27th, by which time the King Edwards were severely attacked on the foliage.

The varieties were divided into three classes :—

1. *Resistant.*
Vor der Front.
Vaterheim.
Nogi.
Prof. Wohlmann.
2. *Fairly Resistant.*
Aspasia.
3. *Not Resistant.*
Blochinger.
Weltwunder.
Bauerngluck.
Atlanta.

INVESTIGATIONS TO BE CONTINUED.

Many of the investigations referred to in the foregoing section are only in their initial stages. Work on these will be continued—more attention particularly being paid to the following :—

(1) *Die Back of Stone Fruits.* Observations will be made from time to time on the rate of progress of the inoculations of *Diaporthe perniciosa*. Further information of the “Die Back” disease will be gathered from field observations.

(2) *Control of Bunt in Wheat.* Trials of wheat treated with different fungicides for the control of “Bunt” have been arranged at four centres in the Province.

(3) *American Gooseberry Mildew.* A further series of trials on the control of American Gooseberry Mildew will be carried out during the coming season.

(4) *Asparagus Disease.* The investigation of “Soil Sickness” of Asparagus land in the Evesham district will be continued.

(5) *General.* In addition to the above main problems a number of investigations of minor importance are being continued as time and opportunity permits.

GENERAL.

Shows.

An exhibit illustrating fungus diseases of agricultural and horticultural crops was shown and demonstrated at the following Shows :—

1. Somerset County Show at Wells.
2. Wiltshire County Show at Chippenham.
3. The Three Counties Show at Gloucester.
4. Imperial Fruit Show at Holland Park.

WILLOW CULTURE AND THE UTILISATION OF WILLOWS.

Condition of Crops and State of Trade.

The weather conditions of 1926 were moderately favourable to the Willow Crop. From personal observations and reports which the Willow Officer has received, the yields will be medium, and the greater portions of the crops will consist of rods of medium size. Spring frosts caused damage to young shoots in several parts of the country, the result being the production of branched rods (rough). On this account the costs of preparation of rods for use (sorting, peeling, etc.) will be greater than in the case of the 1925 crop.

Willow beds have been planted in new areas in Wiltshire and Cardigan. From enquiries which have been made it is probable that the number of new willow growing centres will be increased in 1926-27.

The demand for willow rods by the basket-making industry has temporarily diminished owing to industrial depression.

The price of willows remains stationary.

Enquiries.

The total number of enquiries answered during the year was 118, distributed as follows :—

Gloucester (including Bristol)	..	..	9
Hereford	..	..	1
Somerset	..	..	24
Wiltshire..	..	..	10
Worcester	..	..	2
Other areas	..	..	72
			<hr/> 118

Advice was given, as in previous years, on the suitability of land for certain varieties of willows, planting, marketing, cricket-bat willow culture and the treatment of insect and fungus attacks. Land was inspected with a view to willow planting in Somerset (2), Wiltshire (1), Hampshire (2), Yorkshire (1), Suffolk (1), Devon (1), Dorset (1). The figures in brackets refer to the number of cases dealt with in each county.

Special cases where advice was given were :—

The growing of willows on the Metropolitan Railway Company's Embankments in Middlesex.

The obtaining of suitable rods for tying purposes in the Celery growing industry and the cultivation of these varieties in Nottinghamshire and Lincolnshire.

The cultivation of willows in association with poultry husbandry in Wiltshire.

The obtaining of willow rods suitable for the fishing industry in Northumberland and Durham.

Sources of supply of suitable willow rods for basket-making firms employing exclusively disabled soldiers in Essex and Cambridge.

The cultivation of willows on small holdings in Somerset and Dorset.

The cultivation of willows for supply of material to a Rural Industry Community in Cornwall.

The growing of Cricket-bat willows on the plantation system in Hampshire and Dorset.

The cultivation of small-growing varieties of willows as garden crops by members of Womens' Institutes.

Cuttings of particular varieties were supplied from the Station's Variety Trial Beds for trial purposes to ten prospective willow growers in different parts of the country.

Exhibit.

Commercial varieties of willows as growing plants, willow products, prepared willow rods and specimens illustrative of problems in the industry were exhibited at the Royal Agricultural Show, Reading.

AGRICULTURAL ECONOMICS.

During the year ending 30th September, 1926, the following research and advisory work in Agricultural Economics has been carried out in the Bristol Province.

1. *Farm Management Studies.*

(a) *Costing.* Cost accounts were completed for eight farms in Somerset for the year ending Lady-day, 1925, and detailed reports were sent to the farmers concerned. In addition, three farmers in Somerset, two in Gloucestershire and one in Wiltshire were assisted in initiating and keeping cost accounts. 43 visits were paid to farms in connection with the cost accounts.

(b) *Simple Accounts—Somerset.* In connection with the investigation of simple accounts the names of about 290 farmers in Somerset were suggested. 160 visits were paid and of the accounts collected,

60 were found to be suitable for inclusion in the investigation. The analysis and tabulation of the accounts is proceeding and promises useful results.

(c) *Simple Accounts—Wiltshire.* The Wiltshire Agricultural Accounting Society was constituted on March 11th, 1926. The object of the Society is the collection of simple farm accounts for investigation from the farm management point of view. Prior to the inaugural meeting, steps have been taken to ventilate the proposal and to enrol provisional members. For this purpose a large number of visits were paid to farmers, accountants, markets and meetings, and propaganda was also conducted by letter and circular. After the formation of the Society very little time can be devoted to the furtherance of its objects owing to the demands made by other schemes upon the resources available. On May 14th, an intimation was received from the Ministry of Agriculture that the Economics grant had been increased with a view to the appointment of an additional student assistant to carry out work failing to be done in connection with the Accounting Society. Mr. M. C. Thorne was detailed for this work and it was decided that he should reside in Wiltshire with a view to economy in time and travelling expenses, and in order that he might be in close touch with members and with local conditions and problems. This step proved very popular with the supporters of the Society. At the close of the period under review the membership of the Society numbered 51 and completed accounts had been received from several of these. During the year, 26 visits were paid to farms in connection with the Accounting Society in addition to attendances at markets and meetings.

2. *Enquiries.* During the year 19 enquiries were dealt with. In five cases a system of cost accounts was initiated and the farmers were assisted in carrying it out, and in one case a system of simple accounts was suggested and put into operation. The remainder of the enquiries dealt with points connected with costing, book-keeping, income tax and other matters. Arising out of these enquiries seven visits were paid in addition to those included under the heading of costing, and some farmers were interviewed in the office.

3. *Correspondence Course in Farm Book-keeping.* A course of five papers written by the Advisory Economist was taken by sixteen students in the counties of Wiltshire and Gloucestershire. Each student was required to send in exercises on the subject of

each paper for correction and comment. At the end of the course prizes were awarded for the best work sent in. The course was very successful and most of the students testified to the interest and value of the papers and exercises.

4. *Course in Agricultural Economics.* At the suggestion of the Head of the Department of Economics in the University, Agricultural Economics was included as an optional subject in the curriculum of students reading for an Honours Degree in General Economics. The course was drawn up by the Advisory Economist and appears in the prospectus of the Faculty of Arts.

5. *County Lectures.* In conjunction with the Director of Extramural Studies steps were taken to investigate the possibility of organising University Extension Lectures in country districts. A course of twelve lectures on "Agricultural Conditions and the Country Side" was drawn up by the Advisory Economist and this, together with other suitable courses, was brought to the notice of farmers and of agricultural and rural organisations with a view to the possibility of developments during the coming winter.

6. *Agricultural Shows.* Local agricultural shows were attended, maps and posters were exhibited and literature distributed.

7. *Summary of visits paid.*

Costing	43
Simple Accounts (Somerset) .. .	160
Wiltshire Agricultural Accounting Society ..	26
General Enquiries	7
	<hr/>
	236

**FURTHER EXPERIMENTS ON THE CONTROL
OF AMERICAN GOOSEBERRY MILDEW.***

By R. M. Nattrass.

The promising results obtained from the spraying experiments carried out in the Bristol Province in 1925† made it appear desirable to continue similar trials on the same lines in 1926. In those experiments the advantage that accrued from an early application of the spray fluid, before any sign of the mildew was visible, was shown.

* Reprinted from Journ. Min. Agric., Vol. 33, No. 2, Feb., 1927

† Journal of Min. of Agriculture, Vol. 33, June, 1925,
and Report of Long Ashton Research Station—1925.

The most suitable time for this application is considered to be immediately after the setting of the flowers. In warm sheltered plantations there seems to be no reason why the initial spraying should not be given earlier still, as spraying does not appear to affect the setting of the flowers. The effect of this early spraying is to check the spread of mildew arising from minute infection centres set up by the winter fruiting bodies of the fungus which—lying on or near the surface of the ground and on the old mildewed twigs—are in the act of producing innumerable spores.

It was suggested from these experiments that Burgundy Mixture, owing to its well-known fungicidal properties and adhesive nature, might be an efficient preventive if applied once only at a sufficiently early stage. Since most growers are naturally averse to spraying their bushes twice it was decided to test the relative merits of one application of Burgundy Mixture against one and two applications of Ammonium Polysulphide, a fungicide of proved efficacy against American Gooseberry Mildew, and simultaneously, to ascertain the value of a second application of Ammonium Polysulphide.

An account of these trials is given below in section A.

Since a good degree of control of the Mildew was obtained in the 1925 trials by the use of the Washing Soda and Soft Soap spray fluid a further trial comparing the value of this fluid with the standard Ammonium Polysulphide wash was carried out at another centre.

These trials are described in Section B.

SECTION A.

The Plots.

The plots consisted of well grown Whinham's Industry bushes in series of double rows, each series being 25 feet apart and containing 48 bushes. Seven of these series were taken for the experiment. The control plot consisted of the eight central bushes in each series forming a strip running through the centre of the plot, thus allowing for any variation in intensity of attack which might occur in different portions of the plot.

Sprays.

The two following spray fluids were used :—

A. Ammonium Polysulphide and Soft Soap.

Ammonium Polysulphide	..	$\frac{1}{2}$ gall.
Soft soap	..	5 lbs.
Water to make up to		100 galls.

B. Burgundy Mixture.

Copper sulphate	..	..	8 lbs.
Washing Soda	..	..	20 lbs.
Water to make up to			100 galls.

Application.

In the application of these sprays, two of the series were sprayed with Burgundy Mixture, three with Ammonium Polysulphide once, and two with Ammonium Polysulphide twice.

The first application in all cases was given on April 22nd—immediately after the setting of the flowers. At this time no mildew was visible on any of the bushes.

The machine used was a hand pumped “Rapid” sprayer, worked at a pressure of 60 lbs. The bushes were given a thorough spraying, special care being taken to wet the central portion of the bushes and the under sides of the leaves thoroughly. To ensure uniformity the whole of the spraying was done personally by the writer.

No damage was observed in any of the bushes sprayed with Ammonium Polysulphide, but after about 10 days the leaves of the bushes sprayed with Burgundy showed a certain amount of spotting and this was followed later by an entirely negligible amount of leaf drop. The set and ripening of the fruit was in no way affected.

The plots receiving two applications of Ammonium Polysulphide were again sprayed on May 18th. By this time a considerable amount of new growth had been produced, and although a certain amount of mildew was present on the control bushes, none was observed on the sprayed bushes.

Results.

The fruit was picked on June 21st and was sorted into clean and mildewed berries and then weighed.

The following table gives the weight of clean and mildewed berries from each plot:—

A.

Spray fluid used.	No. of times applied	Date.	Crop. Weight in lbs.		% Weight of mildewed berries.
			clean. lbs.	mildewed. lbs.	
Ammonium Polysulphide	Once	April 22nd	456	84	15.5%
Ammonium Polysulphide	Twice	April 22nd & May 18th	502	30	5.6%
Burgundy Mixture	Once	April 22nd	482	22	4.3%
Control	—	—	143½	95½	39.9%

In considering the above figures it must be borne in mind that there was a greater number of berries in a given weight of mildewed fruit from the control plot than in a given weight of mildewed fruit from a sprayed plot, as, owing to inhibited growth, the average size of the berries was much smaller. Sorting was done by labourers in the same way as when dealing with a commercial sample. The crop was tipped on to a sloping sorting board and the mildewed berries removed from the bulk. No differentiation was made between slightly and completely mildewed berries.

It will be seen that one early spraying with Ammonium Polysulphide gave a considerable degree of control, the once sprayed plots having 15.5% of the crop mildewed as against 39.9% of the control plots. A second spraying 26 days later gave a further reduction of approximately 10% of mildewed fruit. The grower himself must decide whether this further reduction will warrant the cost of a second application of spray fluid. It must be further noted that not only does this second application give a more complete control as regards fruit, but it also very considerably checks the development of mildew on the young sappy growths of new wood which, if left to over-winter, are a potential source of danger the following season.

The plots sprayed once with Burgundy Mixture gave only 4.3% of mildewed berries by weight—in this particular trial a degree of control greater than that obtained by two applications of Ammonium Polysulphide. The efficacy is doubtless due to the good spreading powers of the fluid and to the lasting character of the deposit on wood and foliage. This deposit was plainly discernible up to the time of picking the crop, in spite of heavy rain from time to time. Such a film of deposit would have the effect of inhibiting the germination of spores for a prolonged period. Its value lies more in its power of forming a toxic preventive film than in its use as a “hitting” spray; for the latter purpose a wetting spray containing soap is to be preferred, but Burgundy Mixture must not be applied later than the setting of the flowers, for experiments in 1925 showed that not only does it fail to check the disease when once a hold is obtained by the mildew but also the deposit left on the fruit renders it quite unsaleable.

Further experiments are needed to show whether the high efficiency of the Burgundy can be maintained and at the same time its strength reduced to avoid all leaf damage. Should weather conditions be exceptionally favourable to the disease or

the bushes be especially strong growing and environment render them very susceptible, a further application of a "hitting" spray fluid containing soap is to be recommended.

SECTION B.

The Plots.

In this case the plot consisted of six parallel rows each containing 150 bushes of Whinham's Industry—4 years old. One end of the plot was overshadowed by some tall elm trees. As would be expected, it was here that the heaviest attack of the mildew occurred. The plot was divided up into 12 smaller blocks of approximately equal sizes. These smaller blocks received the spray fluids in the following order :—

No. of Blocks.

- 1, 5, 9 — ammonium polysulphide and soft soap.
- 2, 6, 10 — proprietary soda sulphur———
- 3, 7, 11 — washing soda and soft soap.
- 4, 8, 12 — control. No spray.

Spray Fluids.

The following spray fluids were used :—

1. Ammonium polysulphide $\frac{1}{2}$ gallon
Soft soap 6 lbs.*
Water to make up to 100 gallons
2. Proprietary soda sulphur compound 10 pints.
Soft soap 6 lbs.*
Water to make up to 100 gallons.
3. Washing soda 18 lbs.
Soft soap 10 lbs.
Water to make up to 100 gallons.

Application.

All three spray fluids were applied at the same time. The first application was given on April 22nd—a certain amount of mildew was then visible on young growth in the vicinity of the elm trees.

The second application was given on May 18th by which time a considerable amount of mildew was present on the control bushes and a small amount on the sprayed bushes under the elms.

* 5 lbs. per 100 gallons is the usual amount of soap used in these formulæ—an extra lb. was added owing to the excessive hardness of the water.

Results.

The fruit from the plots was picked on June 21st and the crop was treated in the same way as that from the experiment described under (A). The fruit from each of the same series was mixed in order to obviate as far as possible the inequalities of the plot.

Table (B) shows the weights of clean and mildewed berries from each of the series :—

B.

Spray Fluid used.	Dates of application.	Crop. Weight in lbs.		% weight of mildewed berries.
		Clean. lbs.	Mildewed. lbs.	
Ammonium Polysulphide	April 22nd & May 18th	169	33	16.3%
Proprietary soda sulphur	ditto.	122	20	14.0%
Soda and soap	ditto.	95	41	30.1%
Control. No spray	—	66	98	53.6%

Remarks.

The degree of control obtained in this experiment was poor throughout when compared with that obtained in the experiment (A). This may be accounted for by the fact that the plot was exceptionally favourably situated for an attack by the disease. The effect of the elms was not only to "draw up" the bushes into young sappy growth but also by means of shading and sheltering from wind to favour the dissemination and germination of spores. On the series receiving no spray more than half of the crop was destroyed. The maximum degree of control was obtained by the sulphur and soap spray fluid, and it is with this that the efficacy of the soap and soda fluid should be compared. *As heavy showers of rain were experienced after the last application, the value of these fluids was much impaired. This was particularly so with the soap and soda fluid, which appears to act mainly as a "hitting" spray, i.e., the powdery stage of the mildew is killed on coming into contact with the fluid.

The soda and soap is undoubtedly toxic to mildew, but it must be applied as often as weather conditions render its application necessary. No hard and fast rules can be laid down.

ONION IMMUNITY TRIALS, 1926.*By R. M. Nattrass.*

A further trial on the immunity of varieties of onion to the White Rot Disease *Sclerotium copivorum* was carried out in collaboration with Mr. E. Holmes-Smith, Adviser in Agricultural Botany, the University of Manchester. Marked resistance to the disease had been found in certain varieties by Mr. Holmes-Smith in the North of England, and it was at his request that these varieties were tested on contaminated land in the South-West.

The variety usually grown in the Bristol district for the "Green Bunching trade" is White Lisbon, a variety which is very susceptible to the White Root Rot. As this variety is grown from year to year in the same vicinity, much of the land has within recent years become badly contaminated with the fungus.

As no direct control measures against the disease are known, the information as to the relative resistance of varieties should be of interest to growers.

The seed for this trial which was supplied by Mr. Holmes-Smith was drilled in single rows and the crop lifted on August 12th.

The table below gives the number of clean and diseased bulbs of each variety :—

Variety.	No. of clean roots.	No of diseased roots.	Percentage diseased roots.
1. Magnum Bonum ..	566	191	25.2%
2. Giant Zittal ..	860	233	21.4%
3. Cranston's Excelsior	1100	270	19.7%
4. A.1 ..	910	197	17.7%
5. White Lisbon ..	440	90	16.9%
6. Bedfordshire ..			
Champion ..	1300	243	15.7%
7. Cranston's Excelsior	1190	209	14.2%
8. Wroxham Globe ..	1260	134	9.6%
9. Rowsham Park Hero	1100	90	7.5%
10. Up to Date ..	1380	86	5.1%

No variety appeared to be immune, but the season was exceptionally favourable to the development of the disease.

THE WHITE ROOT ROT OF FRUIT TREES CAUSED BY
ROSELLINIA NECATRIX. (Hart.) Berl.

By R. M. Nattrass.

The White Root Rot of fruit trees caused by *Rosellinia necatrix* (Hart.) Berl., has attracted very little attention in this country and records of its occurrence are few. Doubtless the disease in the past has occasionally been confused with that due to the Honey Fungus, *Armillaria mellea*. Quel. as there is superficially some resemblance between the two parasites. *R. necatrix* has long been known on the Continent as the cause of a serious disease of the Vine and of fruit trees. The disease was first studied and described by Hartig (4) in 1883, the name *Dematophora necatrix* being given to the parasite involved, whilst an account of a more thorough investigation of it was published in 1891 by Viala (7) who, after the discovery of the perithecia, retained Hartig's name and placed the genus in the group *Tuberales*, on account of the completely closed and subterranean character of the perithecia. The fungus, however, was transferred later to the genus *Rosellinia* by Berlese (2).

The perithecia seen and described by Viala and by Delacroix were obtained by keeping infected roots under artificial conditions but since in neither case did the authors mentioned succeed in getting the ascospores to germinate, valid proof of a genetic connection between the perithecia and the vegetative and conidial forms described is lacking. Perithecia have not yet been recorded from Great Britain so that some uncertainty still exists as to the exact systematic position of the fungus described in this paper. There is, however, little doubt, that the vegetative and conidial stages of the fungus occurring here are identical with those of *Dematophora necatrix* described by Viala.

It is interesting to note that the "Root Fungus" recently described by Cunningham (3) in New Zealand and provisionally assigned by him to *Rosellinia radiciperda*, Masee, closely resembles the European White Root Rot fungus, but no fructifications of any kind were found in connection with the New Zealand form. The unsatisfactory state of our present knowledge concerning this matter is well summarised by the author mentioned.

According to Masee (5), and to Wilson (8), the disease is rare in this country and no record of its occurrence is to be found in the

Ministry of Agriculture's Plant Disease Survey Reports covering the years from 1917 to 1924, the last published. The fungus was however definitely recorded from Norwich (1) in 1900, and from Canterbury by Salmon (6) in 1913. No record has been found of the occurrence of this fungus in the Midlands or the North of England although another species, probably *R. aquila*, was reported by Wilson (8) in 1912 as the cause of a disease of Spruce seedlings in Scotland.

Rosellinia necatrix first came to the notice of the writer in the summer of 1924 when certain Bramley's Seedling apple trees in full bearing were reported to be dying off in an orchard near Taunton, Somerset. The fungus was isolated from the roots of these trees. In 1925 it was observed to be the cause of the death of apple trees in a garden at Winscombe, Somerset, and in the same year a piece of infected apple root from the Isle of Wight was received from Dr. G. H. Pethybridge from which cultures of *R. necatrix* were obtained. In 1926 a third case of attack was seen also at Winscombe, and later in the summer it was found attacking potato tubers and roots in the same garden. Narcissus bulbs and also potatoes attacked by this fungus have recently been found by Dr. G. H. Pethybridge, on material received from Mr. Gibson from the Isles of Scilly, whilst corms of Arum and roots of Elm are also reported as being similarly attacked there.

It seems probable then, that *Rosellinia necatrix* may be fairly widely distributed in the warmer parts of the British Isles but perhaps frequently passes unrecognised on account of the absence of fructifications and the comparatively early disappearance of the external mycelium. It is known to have a wide range of host plants among cultivated crops so that lack of a suitable host plant is not likely to account for the comparative rarity of records.

SYMPTOMS OF ATTACK.

In mature fruit trees two or three seasons may elapse before death of the tree is brought about. The earliest signs of attack are seen in the premature yellowing and fall of the leaves, this symptom being usually associated with a heavy blossom and fruit set. In the succeeding year fewer leaves are produced and much of the fruit fails to reach maturity, whilst "dying back" of the branches may be seen. Death of the tree may ensue in the second or third year of attack. The early symptoms are occasionally seen on one side of a tree only, and usually on the side adjacent to a tree that has already succumbed to the disease.

An examination of the roots of a dead tree shows that most of the fibrous root system has disappeared. The older main roots are covered with a greenish-grey web of mycelium which develops short rhizomorph-like structures taking the form of whitish strands or ribbons. The whole web is more or less flocculent and bears no real resemblance to the rhizomorphs of *Armillaria mellea*, although the symptoms above described are similar to those seen in cases of attack by the latter fungus. After the tree has been dead for some time the enveloping web disappears, leaving the surface of the roots with a characteristic dull appearance and dotted over with numbers of small, rounded, black bodies of a sclerotial nature.

The appearance of the young roots in the early stages of attack is very characteristic. Immediately on exposure the ends of the fine roots are seen to be invested with a pure white flocculent mycelium composed of very fine almost colourless hyphae. (Plate I. fig. 2). While that portion of the roots which is invested with mycelium is soft and rotting away, the portion above is still quite healthy.

When an infected tree is removed the soil in the vicinity of the roots is seen to be permeated by the spawn of the fungus in the form of small, cottony masses and of very fine, diffuse mycelium spreading in all directions.

INOCULATION EXPERIMENTS.

The fungus was readily isolated and grown in pure culture in various artificial media in some cases producing abundant conidio-phores after 12-14 weeks.

The following inoculation experiments were carried out :—

(a) *Apple Trees.*

In November, 1925, one 4 year old Cox's Orange Pippin growing in a pot was inoculated by placing a piece of sclerotial tissue from a plum wood culture into a cut on the main root. At the same time one Bramley's Seedling apple tree, of the same age, was removed from its pot, a portion of a plum wood culture was placed in the bottom of the pot and the tree replaced. In neither case did infection occur.

In March, 1926, 30 Warner's King apple trees, 6 years old, growing in pots, were used for inoculation. They were uprooted and a small piece of a vigorously growing malt agar culture of the fungus was placed in a cut 2in.—3in. below the region of the collar. The cuts were then bound up with raffia and the trees replanted. The inoculations failed to take in every case.

(b) French Beans.

In July, 1926, French beans were sown in three pots of soil which was permeated by the fine mycelial threads of the fungus taken from an infected orchard, and seed sown in two pots of clean soil served as controls. The pots were kept in a heated glasshouse. Growth proceeded normally in both the control and the infected soil pots until the plants were about six inches high. The growth of those in the infected soil then became arrested, the leaves gradually turned yellow and dropped off. An attempt was made on the part of the affected plants to produce new roots at soil level, thus giving rise to an effect similar to that which occurs with tomatoes affected with the *Verticillium* disease or with "Foot Rot." As the tips of these roots in turn became infected the plants attempted to produce further new roots, for a distance of two inches above soil level. Finally the fungus grew over the surface of the soil at the base of the stem in the form of a pure white mycelium. This eventually developed into an olive-green, felted disc with a pure white margin. (Plate II., figs. 1, 2 and 3). Meanwhile growth of the control plants proceeded normally.

An examination of the root system of one of the infected beans showed that it had been almost completely destroyed, a gradual rotting away from the tip backwards having occurred. Microscopical examination of sections of the main root and the remaining portion of an affected lateral root showed a compact mass of hyphae in close contact with the outermost layer of cells, but little actual penetration into the deeper tissues could be seen.

A further lot of beans was sown under similar conditions in soil similarly permeated by mycelium towards the end of October. In this case none of the plants was attacked, and all trace of mycelium in the soil disappeared. The reason for this is probably the lower temperature which then prevailed in the house.

LIFE HISTORY OF THE FUNGUS.

As already described, on lifting an infected tree the soil for an area of several feet in the immediate vicinity is permeated by the mycelium of the fungus. Two types of mycelium occur under these conditions :—

1. Greenish grey to white rather dense rhizomorph-like and fan-shaped structures.
2. A very diffuse white mycelium composed of very fine attenuated hyphae.

PLATE I.



1



2

PLATE II.



1



2



3

The rhizomorph-like mycelium probably marks the site of small roots that the fungus has destroyed or is formed by a concentration of hyphae on some organic material in the soil. The fine attenuated hyphae might be described as "exploration hyphae" which travel through the soil in search of a fresh victim. This type of mycelium fills up the minute cavities in the soil and is seen to be particularly abundant in worm burrows.

A small piece of a malt agar culture placed on damp soil in a Petri dish and incubated quickly, produces a fine web of attenuated hyphae which covers the surface. When mycelium comes into contact with the fine roots of a suitable host plant they become clothed with a mass of fine white mycelium which brings about the slow rotting away of the tissues. This is clearly seen when the roots of a recently attacked tree are exposed (Plate I., fig. 2). The only visible connection between a tree so attacked and an adjacent tree in an advanced stage of attack is this fine mycelium filling up the interstices in the soil. In the case of the beans grown in infected soil this was the only type of mycelium present.

That the effect is localised is shown by the fact that young attacked trees have been saved by trimming off the affected extremities of the young roots and replanting them in clean soil. It is doubtful if the fungus can directly attack any part of the plant other than the fine roots. In this respect it differs markedly from *Armillaria mellea*, the mycelium of which, by means of rhizomorphs, appears to be able to attack the root system of a tree at any point. Further, *Rosellinia necatrix* does not progress so rapidly under the bark and bring about death of the tree by girdling in the region of the collar as does *A. mellea*. Death of the host is brought about in the first place by the destruction of the fibrous root system.

As already stated no fructifications of the fungus have been seen under natural conditions, and it is doubtful if the conidia play any part in the dissemination of the disease. During nine years Viala only saw conidiophores in nature on six occasions; he says that "the occurrence of the conidiophores in nature may be regarded as accidental." In Viala's experience both ascospores and pycnospores failed to germinate.

There is no doubt that the sclerotia represent the resting form of the fungus in this country and that under suitable conditions they can give rise to mycelium that is capable of travelling through the soil and attacking a healthy host plant.

CONTROL MEASURES.

Control measures must consist largely of the prevention of spread of the fungus in the soil and the removal of as much as possible of the source of infection. As soon as a tree exhibits the symptoms of attack already described the roots should be exposed to ascertain if *Rosellinia necatrix* is present. If this is the case the tree should be removed and as much as possible of the root system destroyed, as it is on such roots that the sclerotia or resting stage of the fungus occurs. It must be borne in mind that apparently healthy trees in immediate proximity to a diseased one may already be to some extent attacked by the fungus. The roots of these should also be examined on the side nearest the site of the removed tree. Contrary to general belief *young trees* can, in the early stage of attack be saved by uprooting in autumn or winter, trimming off the diseased roots and replanting in clean soil.

True rhizomorphs have not been seen by the writer on diseased roots or in the soil. As the flocculent mycelium appears to be unable to withstand frequent exposure and drying out, bare fallowing the land with frequent cultivations for a season would probably have more effect than direct treatment with chemicals in ridding the land of the fungus. Carbon disulphide is said to have given good results against the White Root Rot of the Vine on the Continent.

Of prime importance is early recognition of the disease, and fruit growers who suspect its presence should not hesitate to obtain the opinion of an expert.

In conclusion the writer wishes to express his thanks to Dr. G. H. Pethybridge for many of the references and for the loan of Viala's Monograph on the Dematophora Disease of the Vine.

REFERENCES.

1. ANON.—Journ. Bd. Agric., 7, 1800-1901, p. 10.
2. BERLESE, A. N.—Rev. Pat. Veg., 1, 1892, pp. 5 and 35.
3. CUNNINGHAM, G. H.—Fungus Diseases of Fruit Trees, Auckland, N.Z., 1925, p. 170-176.
4. HARTIG, R.—Untersuchungen aus dem Forstbotanischen Institut zu Munchen III, 1883, p. 95-141.
5. MASSEE, G.—Disease of Cultivated Plants and Trees, 1915, p. 230. Kew Bulletin, 1896, p. 1.
6. SALMON, E. S.—Journal of the South Eastern Agricultural College No. 22, 1913. Report on Economic Mycology, p. 453.
7. VIALA, P.—Monographie du Pourridie (Dematophora) Paris, 1891.
8. WILSON, M.—The Rosellinia Disease of the Spruce. Trans. Roy. Scot. Abor. Soc. 36, 1922, p. 126.

EXPLANATION OF PLATES.

PLATE I.

- (1) Old root of Bramley's Seedling apple tree killed by *Rosellinia necatrix* showing the mycelial sheet below the bark. The dark portion was exposed before the white and has turned a dark greenish black colour. Sclerotial bodies can be seen on the surface of the bark.
- (2) Young fibrous roots of an apple tree—showing effect of an early attack by *Rosellinia necatrix*. The portion of the root above the mycelium is quite healthy. These roots are from a tree adjacent to that from which the the root in fig. (1) was taken.

PLATE II.

- (1) Right and left—beans grown in soil permeated by mycelium of *R. necatrix*.
Centre—plant grown in clean soil.
- (2) Infected bean showing formation of new roots and fungus growing up into the surface of the soil.
- (3) Same plant as (2) 10 days later. The mycelium has now formed a felted disc on the surface of the soil. The centre of the mycelial disc is a dark olive green.

OIL SPRAYS FOR SPRING AND SUMMER USE.
(PROGRESS REPORT).

By L. N. Staniland.

Oil sprays have been in use in America, Canada and elsewhere for some time but they have not so far been very popular in this country. The work on oil sprays which is being carried out at this Station aims at exploring the possibilities of using oil sprays as cheap contact washes to replace the use of nicotine. The work has, therefore, been carried out with a view to obtaining an oil spray possessing the following advantages:—

Cost.

The final cost of the spray to be not more than half of that of nicotine.

Mixing.

The oil to be such as can be mixed easily in the field by growers, emulsifying readily without heat.

The emulsifier to be some substance readily obtainable in a standard form.

In Use.

Must not damage the foliage of fruit trees.

Must have good killing power.

Experimental.

Both mineral and vegetable oils were considered as to their suitability for the purpose. Among the mineral oils tested were

ordinary paraffin oil, liquid paraffin and several lubricating oils of varying heaviness. Experiments were made also with the following vegetable oils :—olive oil, sesame oil, linseed oil, cotton seed oil, rape oil and castor oil. The vegetable oils were selected primarily on account of their cost, which was in all cases sufficiently low to warrant their consideration.

The selection of likely emulsifiers was then considered. Ordinary spraying soaps of various consistencies and qualities, castor oil soap, calcium caseinate, soluble organic casein, saponin, clays and size were tested in turn in conjunction with all the above mentioned oils. In the case of the vegetable oils, caustic soda and caustic potash were tried in order to determine whether or not the oils would emulsify with their own soaps formed by action with the alkali. This, however, was not found to take place in the cold. As a result of the tests of emulsifiers with the oils, all the mineral oils were discarded as being unsuitable.

When considering field spraying conditions, it was necessary to choose an oil which would emulsify, not by shaking, but by pouring the oil into the emulsifier.

Ordinary soft soap, such as is commonly used in spraying operations, was found to be best for emulsification purposes. The form of soft soap found to be most convenient is that known as liquid soap, composed of one part of soap and two parts of water. For the emulsification of the vegetable oils, the liquid soap was diluted with water until one twelfth of it was soap—*i.e.*, a soap solution of approximately 8 per cent. strength was obtained. Equal quantities of oil and soap solution were used in two beakers. The oil was poured into the soap solution and then the whole poured back again, repeating till emulsification was complete. The following table compares the times taken for the emulsification of the various vegetable oils :—

OIL.	EMULSIFICATION.
Castor Oil	Slow. From 10-15 pourings required.
Sesame Oil	Quicker than Castor Oil. From 6-8 pourings
Cotton Seed Oil	Slightly quicker than Sesame Oil.
Linseed Oil	Quicker than Cotton Seed Oil.
Olive Oil	Quicker than any of the oils above. 1-3 pourings.
Rape Oil	Same ease of emulsification as Olive Oil.

Taking these results and the cost of the oils into consideration, linseed oil and rape oil were selected. The linseed oil was the cheaper. (Linseed oil is a drying oil, while rape oil is non-drying).

The method of mixing finally found to be most satisfactory is as follows :—

The required quantity of oil is poured into a bucket capable of holding at least double the amount, and into a similar bucket is poured an equal quantity of the 8 per cent. soap solution. The oil is poured into the soap solution and the whole poured backwards and forwards between the two buckets until emulsification is complete. In the case of rape oil, though the first pouring nearly completes the emulsification, at least four pourings should be made to ensure the completion of the process. The main bulk of water in the spraying tank should have sufficient soap added to it to give a lather. It has been found that 1 per cent. of "free" soap in the final wash gives optimum wetting power. The primary emulsion is then added to the main bulk and stirred thoroughly. With very hard waters, the addition of washing soda will partially soften the water and will be cheaper than soap alone.

Field Tests.

The linseed oil and rape oil emulsions were tested against various insects. The rape oil was found to possess rather higher killing power than the linseed oil and both were superior to the proprietary oil tested last season. The linseed oil was found to be unsuitable as it "varnished" quickly owing to the thinness of the film deposited on the plant and insect. The rape oil emulsion was found to be very satisfactory. Some idea of its killing powers may be formed from the following table.

STRENGTH OF RAPE OIL EMULSION. (1% free soap present).	INSECTS KILLED.
$\frac{1}{2}\%$	Rose aphids, Willow aphids, Aphis pomi.
1%	Rosy Apple Aphis, half-grown larvae of <i>Phyllodecta vulgatissima</i> (Willow Beetle). Young larvae of the Willow Sawfly, young Winter Moth Caterpillars. Newly hatched larvae of Gooseberry Sawfly.
2%	Fully grown larvae of <i>Phyllodecta vulgatissima</i> , and of the Willow Sawfly. Nearly full grown larvae of Gooseberry Sawfly. Woolly Aphis.

Foliage Damage.

Rape oil emulsion has been found to be less damaging to foliage than the proprietary mineral oil spray tested last season. The

variety known as "Green Dicks" of the species of willow *Salix purpurea* was found to be peculiarly susceptible to damage by oil sprays. The proprietary oil spray slightly scorched the leaves of *S. purpurea* at $\frac{1}{2}$ per cent. strength, damage being severe when the strength was increased to 1 per cent. Rape oil emulsion could be used up to 2 per cent. strength without scorching. At $\frac{1}{2}$ per cent. strength this fluid did not scorch the petals of roses. When used at 5 per cent. strength on apples (Beauty of Bath), just before the "pinking" stage, only very slight scorch resulted. It has been used up to 3 per cent. strength on black currant bushes, variety Seabrook's Black, in almost full leaf.

Uses of Rape Oil Sprays.

Rape oil washes would seem to have a number of advantages, among which may be mentioned the following :—

1. As delayed dormant washes at 1 per cent. strength to replace tar-distillate washes where undercrops, weather conditions or insufficient labour prevent the use of the latter.
2. As a cheap aphid wash for spring and summer use at $\frac{1}{2}$ per cent. strength.
3. As a cheap contact wash against Apple Capsid Bugs, Woolly Aphid and similar pests at a strength of from 1 to 2 per cent.

Further work on oil sprays will proceed along the lines indicated in this progress report. A series of field experiments have been planned for the coming season in which a rape oil emulsion and a lubricating oil emulsion will be tested as under :—

1. As delayed dormant sprays against aphid, apple sucker and small caterpillars immediately after hatching.
2. As spring sprays against capsid bugs.

FRUIT SOILS SURVEYS.

By T. Wallace.

It has long been recognised by practical horticulturists that soil conditions play an important rôle in successful fruit growing. Certain soils, such as the Old Red Sandstone soils of Herefordshire and Worcestershire, the Permian soils of Devonshire and the Ragstone and Brick Earth soils of Kent have been noted as fruit

soils for many centuries. Also, whilst certain soil conditions have been recognised as favourable to the growth of fruit trees, others have been regarded as unsuitable.

The soils of fruit growing areas have not been systematically studied, hitherto, in this country. Hall and Russell, in their "Survey of the Soils of Kent, Surrey and Sussex," examined the soils in certain of the fruit growing areas and showed that those usually regarded as especially suitable for fruit growing were, in general, loams containing fairly high proportions of fine sand, silt and fine silt and medium but not high amounts of clay. In virtue of their textures the soils were generally naturally well drained but not likely to dry out too quickly in seasons of drought. These workers give a few examples showing the differences in textures of soils from orchard areas in which fruit trees have been successful and others in which they have been unsuccessful and, although they show that differences exist in the textures in comparable cases, they do not attempt to explain the manner in which the different soil conditions produce the respective results.

During the course of advisory work carried out by the writer in the past, numerous cases have been observed in orchards and plantations of outstanding successes and of conspicuous failures which have obviously resulted primarily from soil factors. Whenever possible, data have been collected of such cases and consideration of these has indicated that it would be possible to correlate certain soil conditions with good and bad growth in fruit trees.

In 1922, the question of the effect of soil conditions on the growth of fruit trees was considered by a Sub-Committee of the Ministry of Agriculture and Fisheries and, as the results of the deliberations of the Sub-Committee, a scheme for investigating the problem was evolved in which this station was asked to participate.

The scheme was briefly as follows :—

It was thought that there existed in the Wisbech area of East Anglia a relatively small area over which several types of soil occurred whereas such factors as climate, altitude, water-table, etc., likely to affect the growth of trees were relatively constant. In such an area it would be possible to study the effects produced by varying soil conditions under circumstances where other factors varied inappreciably.

On the other hand, it was thought possible to select areas in the West Midlands over which similar soil conditions obtained but

where the factors, climate, water-table, altitude, etc., showed significant differences.

The two problems were regarded as complementary. The Horticultural Department of the School of Agriculture of Cambridge University was asked to undertake the investigation in East Anglia and Long Ashton Station that in the West Midlands.

In the latter district two areas were finally selected, the first being the relatively large and important fruit growing area occurring on the Old Red Sandstone marls around the town of Bromyard in Herefordshire and including such famed areas as those of the Teme Valley, Suckley, Ledbury and Aston Ingham and the second the smaller area of light soils situated around the town of Ross.

The investigations have been completed recently and detailed reports have since been prepared on the findings.

It is sufficient to state at this point that the results have shown that in both areas a close correlation exists between soil conditions and tree growth and that such surveys possess great value to the fruit grower. These surveys are discussed further below.

In consequence of the character of the results obtained in this preliminary work, the Ministry of Agriculture has decided to extend the investigations to other areas and has allocated to this institute a special grant for the continuation of the work.

Since the allocation of this grant, work has been commenced on the fruit growing areas situated on the Lower Lias formation in Worcestershire, Gloucestershire and Somerset. The more important of the fruit areas in these districts are those located in the neighbourhoods of Evesham, Pershore, Cheltenham and Martock. This particular formation has been chosen for two reasons. In the first place the districts occurring on it are of great importance for fruit growing and, secondly, the soils occurring in them are either clays or gravels. Thus, when the investigations of these are completed data will be available relating to the following classes of soils—coarse gravelly soils, coarse sandy soils, close textured fine sandy or silty soils and heavy clay soils. The data from such soils should provide valuable information on the problems likely to be encountered on most classes of soils utilized for fruit growing.

Since these surveys are likely to form an important feature of the programme of work of the station during the next few years,

it seems desirable at the present stage to make known the aims and possible uses of them, to say something of the methods of working and of the character of the results obtained to date and of the manner in which it is proposed to publish the results to bring them within the reach of growers.

Aims.

The three main aims of the work may be stated as follows :—

1. To determine the part which soil conditions play in successful fruit growing in the chief fruit growing areas in the West Midlands. An attempt will be made to correlate various soil factors with tree growth, behaviour as regards fruiting, fruit quality, incidence of diseases, etc.
2. To discover what are the particular problems due to soil factors in each area and to investigate the manner in which these factors operate and the nature of the effects they produce.
3. To classify the various soil conditions occurring in each area and eventually to construct soil maps of the areas.

It should be stated that in the earlier stages of the work it is not proposed to make detailed soil maps as the construction of such maps is extremely slow work and in many areas their value to the practical man is not very great. It is considered important for present needs to describe accurately the different soil conditions occurring in the areas and the practical effects of these on tree performance and hence it is proposed to follow this procedure at the present stage of the work.

Uses.

As stated previously, it is considered that these surveys are of great practical utility. A list showing the more important purposes which they may be expected to serve is given below.

1. For advisory purposes :—They will provide data which will enable Advisory Officers to furnish valuable advice in cases where they are requested to give opinions on the suitability of land for fruit growing purposes.
2. To enable growers to recognise the nature of the problems in their plantations.
3. To serve as a basis of determining the soil problems occurring in the areas considered and in other areas where similar soil conditions occur. Certain results in various areas can be reasonably expected to be

applicable to similar soil areas—e.g., areas of light sandy soils provide certain problems in common.

4. To provide a basis for further technical investigations—trials of stocks and varieties, manurial trials, systems of management, etc.

The manner in which the results can be applied in these and other ways will become evident when the results obtained to date are considered below.

Methods of Working and Character of Data.

It will be of interest to growers to know something of the methods of procedure adopted in carrying out the surveys and of the character of the data collected. The work is divided into three sections—soil investigations, pomological investigations and cold storage tests on fruits. In the initial stages of a survey the field characters of the soils in plantations and orchards of the area are examined and representative samples of soil are collected to varying depths, according to the soil conditions found, for examination in the laboratory. These samples are examined to determine the following points: texture or mechanical composition, chemistry and mineralogy. As the result of the field and laboratory work the soils are eventually classified.

In the field examination special attention is paid to good and bad growth areas, sites, drainage features and systems of soil management, including cultivation, cropping, manuring, etc. Details of acreage are recorded and general notes are made on the classes of fruit and varieties growing on the areas.

The soil worker is followed by the pomologist who takes detailed records of the various pomological features occurring—classes of fruits, varieties, behaviour of the various kinds of trees and bushes, growth features, fruitfulness, fruit characters, distribution of pests and diseases.

The soil and pomological data are subsequently considered together, and the various correlations existing between soil and other factors and the pomological features are determined.

In connection with the work on fruit quality, arrangements have been made with the Food Investigation Board to carry out cold storage tests on certain varieties of apples to determine the effects of soil conditions on keeping quality.

The various correlations having been determined, attention is given to the major problems of the areas and especially to cases of failure which, while of frequent occurrence, appear likely to be substantially improved by appropriate treatment. Examples of such cases can be quoted in the cases of the completed surveys.

Records and Publications.

The questions of records and publication of results call for special mention in this article as there are a few points in connection with these to which it is desired to draw the attention of growers whose plantations may be examined during the course of the surveys.

In the first place we realise our great indebtedness to growers for permission to examine their plantations and for the large amount of valuable information which is always forthcoming in answer to our numerous enquiries. All information obtained is always treated as being *strictly confidential* and we wish to take this opportunity of assuring growers who co-operate in this work that all knowledge gained of plantations and orchards in these surveys will always be treated as confidential and that information regarding any plantation or orchard will not be given to anyone excepting, to the owner or tenant concerned without permission being given previously by the appropriate person. On the other hand, we shall always be prepared to furnish as complete a report as possible on any plantation or orchard to those immediately concerned.

Since the information on individual plantations is regarded as confidential, it is necessary to publish the results without reference to names and it is proposed to accomplish this by means of assigning numbers to plantation areas and by placing a confidential key to these for the use of Advisory Officers in the station files at Long Ashton.

Two types of reports will be drawn up for each area. The first will be a detailed report of the work carried out and the conclusions reached and will contain all the data amassed in the form of appendices. These reports will not be suitable for general circulation in view of the prohibitive cost of publication but will be available for reference at Long Ashton and in the Agricultural Offices of the Counties concerned. The second type of report will possibly be in the form of a monograph published by the Ministry of Agriculture and Fisheries and will be published at as low a price as possible. In this publication much of the detailed data contained in the appendices of the detailed report will be cut out, only appropriate examples from these being given to supplement the text.

A full description of the work done and of the conclusions arrived at will be given and every attempt will be made to present the subject in readable form. The volume will contain appropriate illustrations.

In connection with the surveys which have already been completed in the Bromyard and Ross areas it should be stated that copies of the detailed reports of these have already been forwarded to County Agricultural Organisers of Hereford, Gloucester and Worcester for office use and information on the results will be available in the future from the above officers or from Long Ashton authorities.

The question of the publication of the abridged reports is at present receiving the attention of the Ministry of Agriculture.

*Bromyard and Ross Areas Surveys.**

In order to illustrate certain of the points dealt with above it is proposed to conclude this paper by presenting a brief summary of the work carried out in the Bromyard and Ross areas and referring to some of the more salient features of the results and their practical importance.

BROMYARD AREA.

The area considered covers approximately 200 square miles and is mostly enclosed in the roughly rectangular area formed by lines joining Berrington Mill, Worcestershire, in the north west; Stockton-on-Teme, Worcestershire, in the north east; Ledbury, Herefordshire, in the south east; and Holmer, Herefordshire, in the south west. The remainder of the area is comprised of a narrow strip, only a mile or two in width, extending from Ledbury, Herefordshire, in the north to Underdean, Gloucestershire, in the south.

The soil of the area is in general a close-textured silty loam, generally devoid of stones and underlain by marl, and from its working properties is classed as a heavy soil. It is a sedentary soil derived from the underlying rocks which belong to the Lower or Cornstone division of the Old Red Sandstone formation. These rocks are composed chiefly of clays, marls and cornstones with occasional bands of close-textured soft micaceous sandstone.

The area is hilly and plantations and orchards are located on a variety of sites at altitudes varying from 200 feet to 500 feet above

* By T. Wallace, G. T. Spinks and E. Ball.



Plate I. Bush apple trees, variety Lane's Prince Albert, age 20 years, growing on a Class A. soil area in the Bromyard area.

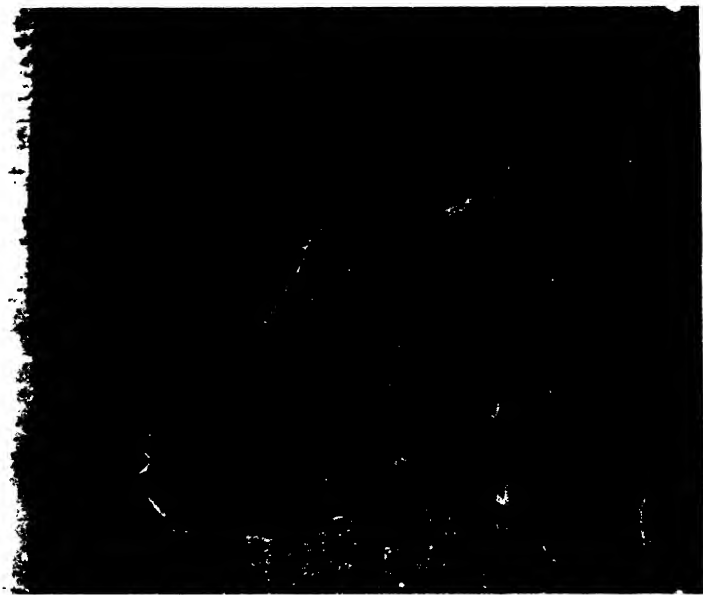


Plate II. Bush apple trees, variety Lane's Prince Albert, age 20 years, growing on a Class B2. soil adjoining area in Plate I.



Plate III. Bush apple trees, variety James Grieve, age 12 years, growing on a Class A soil area in the Ross area.

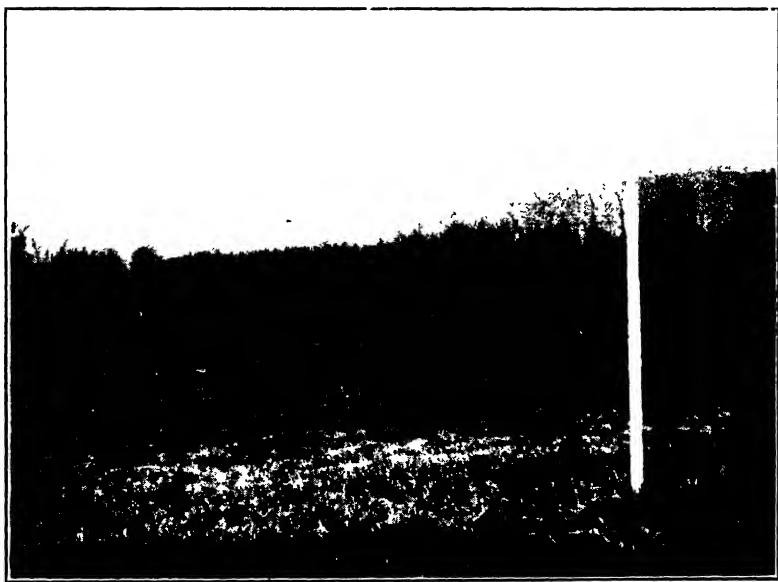


Plate IV. Bush apple trees, variety James Grieve, age 12 years, growing on a Class C soil area adjoining area in Plate III.

sea level. It has been a noted fruit growing area for several centuries and at the present time many excellent orchards of apples, cherries, plums and damsons are distributed over it.

During the course of the survey 44 centres were visited and the soil conditions were examined in 115 plantations and orchards. As a definite problem was involved in this survey only those orchards and plantations were examined which were judged as suitable for the purpose in view. The acreage considered was 743 acres and 320 soil samples were selected for laboratory determinations. As the result of the soil work the soils of the plantations examined were subsequently placed into classes as follows on the basis of certain field characters and of texture features revealed by mechanical analysis.

CLASS A.—The Predominant Class of the Area.

Surface soils are close textured silty loams, pink in colour when dry and brick red when wet. Stones are generally absent but a small percentage of sandstone fragments or cornstone nodules may be present. The soil, when moist, samples easily with an auger and it is usual to find the successive layers of subsoil are more clayey than those immediately above until finally the typical stiff marl of the parent rock is reached. The gradation from the close textured surface soil to the marl at a depth below 30ins. is a characteristic feature of the group.

Of the mechanical fractions, fine gravel and coarse sand usually comprise less than 5 per cent, fine sand, silt and fine silt are important fractions and clay ranges from 8.5 per cent. to 17.5 per cent. whilst at 18ins. to 30ins. depth, this fraction constitutes from 12 per cent. to 22 per cent.

CLASS B.

This class includes several sub-classes or divisions exhibiting characters which differentiate them from Class A.

DIVISION B1.—Special Feature: The development of stiff bands of marl at or near the surface.

The condition is usually met with on knolls or portions of slopes where the curvature is convex. It is doubtless the result of active periodic erosion of the surface soil layers. The bands are impervious to water and mark the lower limit of weathering effects. The surface soils are usually of closer texture than Class A. and the marl layer contains a high percentage of clay.

DIVISION B2.—*Special Feature: Shallow soil overlying unweathered material of a fine sandy or silty character.*

These conditions generally occur under the same circumstances as B1. and are most probably due to the same agencies. The unweathered material *in situ* is impervious to water, but when excavated and placed in water it easily falls to pieces. The structure of the profile of this material is "platey." The impervious character appears to be due to the absence of coarse particles and to the shape and arrangement of the particles. There is no iron pan present.

The soils may show any one of the following "irregular" features in proceeding from the surface soil to the depths of 30ins. to 42ins.

- a. Sharp rise in "fine sand" accompanied with a fall in clay.
- b. " " " silt " " " " "
- c. Irregular decreases in the clay fraction only.
- d. Sharp rise in the "fine sand" only.
- e. Decided fall in "fine sand" with sharp rise in "fine silt."

DIVISION B3.—*Special Feature: Sandy pockets of loosely packed particles which offer little resistance to the auger.*

These pockets often occur near the outskirts of areas as in B2, and are possibly formed from the natural panning of coarser particles in the formation of the particular condition in B2. The surface soils have textures as in A. Abnormal material occurs which contains a high percentage of "fine sand."

DIVISION B4.—*Special Feature: Shallow soil of stiff marly character overlying cornstone deposits.*

This condition occurs in situations as in B2 and is very similar to it. A point of difference is the character of the underlying rock.

DIVISION B5.—*Special Feature: Shallow soil overlying soft sandstone rock.*

The surface soil may be close textured as in Class A. with a more sandy subsoil or it may be sandy and contain fragments of sandstone rock. In the more extreme sandy cases the soil may contain 60 per cent of fine sand, whilst the percentage of clay is much lower than in class A.

DIVISION B6.—*Special Feature: The soil from the surface to 30ins. depth or more is of a light fine sandy nature.*

These areas generally occur in the vicinities of sandstone outcrops. The soil to 30ins. is much lighter than in group A. Fine sand is high, silt and fine silt tend to be low and clay is always low.

On the completion of the pomological work the trees and bushes growing on the various soil areas were grouped into four classes. The characters of these groups are as follows :—

Group 1. Good, well-grown and fruitful trees.

Group 2. Trees which apparently have been good but are now aged and those which would also be good but for certain points in their management.

Group 3. Medium trees ; inferior to those in group 1 as regards growth, health and cropping.

Group 4. Bad trees ; stunted or dying.

The relationships found between the pomological groups and the soil classes are summarised in Table I.

TABLE I. SHOWING THE RELATION BETWEEN SOIL AND POMOLOGICAL GROUPS.

Tree Groups.	Number of Cases.	Soil Groups.						
		a.	b.					
			1.	2.	3.	4.	5.	6.
1	52 + 2* = 54	47				4	1	
2	39 + 2* = 41	38					1	
3	11 + 1* = 12	4	1	3		2	1	
4	46 + 0 = 46		2	26	4	4	9	1
Totals	153	89	3	29	4	6	13	4

* Denotes soil not examined.

The cases considered in this table are mostly apples, the remainder being plums, damsons and cherries.

The results show that there is a striking correlation between the soil characters considered and tree growth. Practically all the highly successful trees occur on Class A. soil conditions. The exceptions occur in the cases of Classes B5 and B6, and in these cases the trees in question are cherry trees ; apple trees on such soil areas are not successful. It is also clear that certain soil classes are invariably associated with failures or poor results as in Class B2.

Typical examples of apple trees growing on adjoining areas where soil condition of Class A. and Class B2 categories obtain are shown in Plates I and II.

ROSS AREA.

This area comprises a few square miles around the town of Ross, in Herefordshire. The soil, other than on the alluvial tract bordering the river Wye which flows through the district, is generally of a coarse textured sandy nature. It is derived from the underlying rock which is a soft grained sandstone containing quartzose grits and exhibiting much false bedding. Occasional lozenge shaped bands of marl occur between the layers of sandstone.

The surface of the area is of an undulating character and its continuity is broken by the river Wye which flows through it for the most part in a fairly deeply cut bed. Outside of the river valley the altitude of the land varies from 200ft. to 300ft.

The soil of the district is highly prized for arable crops but the district does not appear to have any great history as a fruit area as is the case of the Bromyard area.

The soil conditions occurring in the fruit plantations of the area were classified as follows :-

Class A.

The surface soil and subsoil are of a coarse sandy texture, are pink in colour when dry and brick red when wet. The sandy material overlies a bed of red marl which occurs at depths varying from 15ins. to 3ft. 6ins. The appearance of the marl is similar to that occurring in the Bromyard area.

Class B.

The surface soil and subsoil are mixtures of coarse sand and marl and are appreciably stiffer than the sandy soil in Class A. The subsoil rests on soft sandstone rock.

Class C.

Surface soil and subsoil to at least 4ft. 6ins depth consist of coarse sandy material as in the surface soil of A. Marl is absent.

Class D.

The surface soil and subsoil (where present) consist of coarse sandy material as in A. and overlie soft sandstone rock which occurs within 30ins. of the surface.

The pomological data allowed of the trees of the area being arranged into four groups as shown under the Bromyard area.

The relationship existing between tree growth and soil characters is shown in Table II.

TABLE II.—SHOWING THE RELATION BETWEEN SOIL AND POMOLOGICAL GROUPS.

Tree Groups.	Number of Cases.	Soil Groups.			
		a.	b.	c.	d.
1	6	4	2		
2					
3	3	1		2	
4	10			4	6
Totals	19	5	2	6	6

From the table it is quite clear that here again a close correlation exists between certain soil conditions and tree growth, the trees considered in this case being apple and plum trees.

Successful trees occur on soil areas A. and B. (no cases on the latter are given in the table), whilst failures are associated with soil groups C. and D.

Examples of typical specimens of apple trees growing on adjoining areas of the types in soil Classes A. and C. respectively are shown in Plates III and IV.

The above examples from the Bromyard and Ross areas will serve to show the kinds of results which the surveys may be expected to yield.

One further point requires mention in illustration of the practical utility of the results. Certain soil conditions in the two areas having been found to be almost invariably associated with tree failures, it becomes a matter of importance to discover whether the causes of the failures can be remedied. Experiments with this end in view have been commenced on areas where various remedial measures appeared worth trial and already results have been obtained, which suggest that in certain cases in the Bromyard area, in Classes B5 and B6, and in the Ross area in Classes C. and D., the difficulties may be overcome by appropriate treatments.

**AN EXPERIMENT ON THE WINTER-KILLING
OF VEGETABLE CROPS IN MARKET GARDENS.***

By T. Wallace.

The experiment described in this paper was carried out as the result of an enquiry submitted to the writer by the Bristol and District Association of Market Gardeners on the occasion of a lecture given before that Association in November, 1923.

On that occasion the statement was made by several growers that they were no longer able to produce satisfactory winter crops in their gardens owing to the fact that the plants were killed during the periods of cold weather which occurred during the winter months.

The writer undertook to investigate the problem and the necessary facilities were placed at his disposal by members of the association.

A preliminary examination showed that the problem bore little relation to the original soil types of the gardens as plants appeared to be equally affected on soils as widely different as those derived from the light Pennant sandstones and the tenacious Lower Lias clays. In all cases where winter-killing occurred the land had been under continuous market garden cropping for a number of years—from ten years and upwards—and the information was obtained that plants were never affected on new land.

Plants growing on these old garden soils during the winter months invariably showed exceedingly poor root development and there was always a lack of fine fibrous rootlets. They could generally be pulled out of the ground without appearing to offer any resistance, thus showing that the roots had a very poor hold in the soil.

In broad-leaved plants such as cabbages and lettuces the marginal portions of the leaves always exhibited a scorched appearance, whilst the foliage of onion plants showed symptoms of dying back from the tips.

Similar symptoms were observed on cabbage plants and lettuce plants in some of the gardens during a dry period of summer weather.

The regular practice in the gardens is to grow such crops as celery, marrows and various brassicæ during the summer months and to follow these with winter onions, winter lettuces and spring cabbages, etc., for the winter months.

* Reprinted from "Journal of Pomology and Horticultural Science," Vol. v. No. 3, July, 1928.

The system of manuring followed is to apply very heavy dressings of town stable manure to the summer crops—from forty loads per acre upwards—as it is the opinion of the growers that without such heavy dressings of stable manure satisfactory results cannot be obtained with celery and marrows.

Of late years much trouble has been experienced from fungus diseases on the celery crop in many gardens and hence it has become increasingly important that a successful winter crop should be obtained. In some cases the position has become so acute that the growers are contemplating giving up their old grounds and moving further into the country.

Description of Experiment.

A typical piece of land for the purpose of carrying out experiments was kindly offered by Mr. W. T. P. Hasell, at St. George, Bristol. The ground had been under market garden crops for forty years. Previous to being taken over for market garden purposes the soil was a very tenacious Lias clay soil which could only be dug over with a fork with great difficulty.

During the whole of the period that the land has been under market garden crops the practice has been to apply extremely heavy dressings of town stable manure and frequent dressings of lime and as a result of this treatment the soil has lost its original clay properties and now works like a light soil and is inclined to be “puffy.” Indeed, the physical properties of the soil now appear to be determined almost completely by the high content of organic matter.

The garden was visited on December 5th, 1923, to examine the condition of plants in the winter state and to select a piece of land for experimental purposes. On this occasion, on certain plots in the garden, spring cabbage plants and winter lettuces were exhibiting the typical symptoms to a marked extent, showing marginal scorching of the leaves and deficient root development. The root systems of some of these cabbage plants were compared with some plants which had been raised in the same seedling bed and planted out on a new piece of ground and it was noted that the latter plants had well developed fibrous roots and healthy foliage.

A border planted out with winter lettuces was selected as suitable for the purpose in view. The plants on the border were in very poor condition, a large proportion appearing to be practically dead, and the grower was of opinion that another period of cold weather would kill most of the plants.

Two plots were marked out on the border for treatment. A composite sample of soil, to a depth of 9 inches, was taken from the border. The percentages of carbonate of lime and available potash and phosphoric acid were determined in the sample. It was proposed to carry out further determinations but, unfortunately, the sample was mislaid in the laboratory.

The results obtained were as follows :				%
Carbonate of Lime	..	..	..	5.85
*Available Potash (K_2O)	..	..	..	0.0410
*Available Phosphoric Acid (P_2O_5)	..	..	..	0.1838
* Denotes soluble in 1% Citric acid solution.				

To one of the plots, which measured 40 yards by 5 yards, it was proposed to apply regular dressings of sulphate of potash to subsequent crops, whilst the remainder of the border was to be given no manure of any sort.

The reason for suggesting these treatments was that the writer, in his experiments on the nutrition of fruit trees, etc., (1, 2) has found that when plants are fed with nutrients in which the ratio nitrogen to potassium is very wide the trees become affected with leaf scorch and the root systems formed are frequently deficient in fibre. In field experiments on gooseberries at this Station it has also been demonstrated that such feeding may actually prove so detrimental to growth as to actually reduce the condition of the plants below that of the plants on the unmanured plots.

It is generally held by growers that stable manure, being a natural manure, is a sufficiently well balanced manure, but in the writer's opinion, for horticultural purposes where large dressings are given regularly, this is not the case, such a practice leading to a condition of excess nitrogen in the plant food.

The programme of cropping and manuring arranged for the first season was as follows :—

The lettuce crop occupying the plot was to be followed by Seville beans as the 1924 summer crop, and the beans by winter onions for the 1924-25 winter crop. A dressing of sulphate of potash at the rate of 3 cwt. per acre was to be applied without delay to the lettuce plants on the "treated" plot and a similar dressing was to be applied to that plot at the time of the planting of the onions. The programme was carried out in its entirety.



PLATE I.

Showing the condition of the onion crop on the potash treated plot on January 23rd, 1925. Note the normal "stand" obtained and the vigorous condition of the plants.



PLATE II.

Showing the condition of the onion crop on the untreated portion of the border on January 23rd, 1925. The vacant strip along the edge of the border had been cleared. Note the thin "stand" and the poor condition of the plants.

Results.

The effect of the potash dressing on the lettuce plants was not examined by the writer as it was thought that the plants were in too poor condition at the time of applying the dressing to derive any benefit from it. The grower, however, was of opinion that the plants showed some response to the treatment.

Observations on the bean plants during the early stages of growth were carried out by the grower, who stated that differences in favour of the potash plot plants were evident from an early date.

The plots were inspected by the writer on June 26th at which time the stage of the first picking over had been reached. On that date it was quite evident that the condition of the plants on the potash plot was superior to that of those on the unmanured plot. On the latter plot the foliage was in poor condition, many leaflets were of an unhealthy green colour and exhibited pale marginal markings and blackened patches. The plants were also fairly badly affected with "Chocolate Spot" disease. On the potash plot the foliage was a much fresher green than on the unmanured plot, there being practically no signs of the pale bands or the blackened patches on the leaflets. The plants did not appear to be suffering from "Chocolate Spot" to anything like the same extent as those on the untreated plot.

Owing to the difference in condition of the plants on the two plots the grower was obliged to clear the crop on the untreated plot before that on the potash plot.

As with the bean plants, the early observations on the onion crop were carried out by the grower and these observations again showed that from an early stage the plants on the potash plot made better growth than those on the unmanured plot.

The plants on the latter plot showed the typical deficient root systems, whilst on the former plot the root growth was normal in character. By December, plants on the untreated plot began to die off and it became necessary to commence clearing off some of the better plants on the plot to sell "bunched green" as it was obvious that the plants would otherwise be lost. The plants on the portion of the plot adjoining the potash plot were left untouched for comparison with the plants on the latter plot.

The plots were inspected by the writer on December 22nd. On the potash plot there was a normal "stand" of healthy plants.

The root systems were well developed and the tops were about 12 inches in height. On the untreated plot the "stand" was very irregular, there being numerous bare patches where the plants had died out entirely. The best plants on this plot were also considerably behind the average plants on the potash plot. The difference in the development of the plants on the two plots was very marked.

Photographs of the plots, showing the condition of the plants, were taken on January 23rd, 1925. These are reproduced in Plates I. and II.

Discussion of Results.

In this experiment it was quite clear that both the bean crop and the winter onion crop responded markedly to the dressings of potash and that in the case of the latter crop the characteristic symptoms attending winter-killing were overcome by the treatment, as a normal "stand" of healthy plants with well developed root systems was obtained.

In view of these results the writer would suggest that winter-killing of crops in such soils is largely due to the wide ratio of nitrogen to potassium in the plant food resulting from the practice of continuous manuring with heavy dressings of town stable manure and would recommend that growers experiment with systems of manuring using smaller dressings of town stable manure supplemented with dressings of potash manures instead of continuing with their present manurial practice.

Summary.

1. The problem of the winter-killing of vegetable crops in market gardens in the district around Bristol is discussed in relation to the current manurial practice.

2. The results of a manurial experiment designed to throw some light on the cause of the phenomenon are presented.

3. A recommendation, based on the results obtained in the experiment, is made that growers should experiment with systems of manuring entailing the use of smaller dressings of town stable manure than at present, supplemented with dressings of potash manures instead of continuing in their present practice of relying wholly on large dressings of town stable manure.

References.

- (1) Wallace, T. Pot Experiments on the Manuring of Fruit Trees. Annual Reports, University of Bristol Agr. and Hort. Research Stn., 1921, 1922, 1923.
- (2) Wallace, T., and Hutchinson, H. P. Note on the Root Systems Developed by Willow Cuttings in Nutrient Solutions. Annual Report, University of Bristol Agr. and Hort. Research Stn., 1924.

PROGRESS REPORT ON FRUIT BREEDING.

By G. T. Spinks.

During the past year the work on fruit breeding at Long Ashton has been confined to observations on the various seedling plants growing in the plantations. Young seedlings have been raised from seed obtained as the result of crosses made in 1925, but no further supplies of seed have been obtained in 1926.

The progress of the work on the various fruits is given under separate headings below :—

APPLES.—Large numbers of seedling apple trees are now coming into bearing. Blossom was noted this year on 400 trees, representing approximately 350 different individual seedlings, as some of the seedling trees had been duplicated by budding. Fruit was obtained from 200 different individuals, the size of the crop varying from single apples up to a bushel or more in some cases. Descriptions of the fruit from each seedling have been made and the chief points of interest regarding the trees themselves, such as habit, vigour and health, are also being noted. Time did not permit, however, of the notes on all the fruiting trees being completed this year. The descriptions of each individual tree and its fruit will, in a few years time, provide material from which information on the genetics of the apple may be obtainable; but at present the number of individuals fruiting in any one family is too small to afford much information.

While making observations on the fruit, any varieties which seemed likely to be of value were noted. Several good apples of different seasons have been found, some suitable for dessert and others for culinary use, but it is doubtful whether most of them are superior to the best varieties now commonly grown. Two seedling varieties, however, appear very promising as early dessert fruits. They are of good dessert quality and are in season only slightly later than *Beauty of Bath*. One, at least, has every appearance of being a heavy cropper. These two varieties are being propagated for a more extensive trial. Other promising sorts will probably be observed for one or two more seasons before it is decided to propagate any of them.

PLUMS.—About 30 plum seedlings blossomed this year, but in some cases the amount of bloom was very small. Weather conditions were unfavourable for setting, only 14 trees set fruit, and finally a crop was obtained from 6 trees only. Plum trees and fruit are being described and selected in the same way as the apples.

One of the plums, a rather small mid-season variety which is a good cooker, is worthy of further consideration on account of the extremely heavy crop which the tree bore. This variety is being propagated.

BLACK CURRANTS.—The plantation of 1,300 seedlings referred to in the Report last year bore its third crop this year and a final selection was made of the bushes which are to be propagated for further trial. The rest of the bushes have now been discarded. Cuttings had previously been taken from most of the selected bushes and a supply of one or two-year old plants is now available. A trial plot of these selected seedling varieties is being planted this winter and bushes of a pure strain of Baldwin will be included in the trial for purposes of comparison.

GOOSEBERRIES.—Observation of seedlings and the selection of any of outstanding merit have been continued.

RASPBERRIES, BLACKBERRIES AND HYBRID RUBI.—Trials of previously selected seedling raspberries are being continued.

Two families of seedlings derived from crosses between successful commercial varieties of raspberries fruited this year. The parents of one family were early varieties and those of the other were late-fruiting varieties. Several promising seedlings from these two families have been selected for further trial. Seedlings from crosses made later than the above have not yet fruited but are now ready for moving from the nursery to their permanent quarters.

The various hybrid seedlings to which reference was made last year are also being planted out this winter and have not yet fruited.

The selected seedling loganberries and blackberries appear again to have borne out their early promise. They have, however, up to the present fruited only as individual plants or in very small numbers. They have now been propagated from tips and a sufficient number of young plants from these tips are available for the commencement of a trial on a larger scale.

STRAWBERRIES.—Various circumstances combined to make the crop on the strawberry seedlings this year of little value as a test of their true capabilities, and it has been necessary practically to ignore this season's results and to plant out a fresh trial plot of the selected varieties. Adverse conditions, however, have shown which varieties can be eliminated from further trials as lacking in constitution.

A few families of seedlings from which selections had not previously been made were under observation and a few plants were selected for propagation.

CIDER-MAKING TRIALS FOR THE SEASON 1925-26.

By O. Grove.

As last year, the cider apple crop was decidedly below the average. This was especially the case with the Kingston Black variety, of which only very small quantities were available. The average specific gravity of all the juices made into cider at Long Ashton was 1.0519, which represents a very fair standard. The ciders themselves were judged on the Annual Tasting Day, May 6th, 1926, to be of fairly good quality, the acidities being rather high in the sharp class.

SINGLE VARIETY CIDERS.

In Table I will be found the analytical data and other observations concerning the season's single variety ciders.

Sharp Varieties.

Of the sharp varieties, No. 1, Red Norton, was tried for the first time. It produced a very fair cider of a pale colour and without much character. No. 2, Never Blight, gave a very useful sharp cider. The two next in the list, Red Dymock and Martin's Favourite, were similar in character, highly coloured, very sharp ciders with good flavour, very useful for blending with ciders made from sweet and bittersweet apples. No. 6, Porter's Perfection, gave a first-class cider. No. 7, Shrawley Sweet, which was tried for the first time was too high in tannin content to be used alone for cider, also the rate of fermentation of the sample was rather high. Nos. 8 and 9 were rather below the average for these two well-known varieties.

Sweet Varieties.

No. 10, Sweet Alford, the only representative of this class, was a very nice cider, very useful for blending with sharper varieties.

Bittersweet Varieties.

Of the bittersweet varieties the two first, Bramtot and Cherry Norman, gave ciders of good quality and body and the same can be said of Nos. 13 and 14. No. 15, White Jersey, was rather thin and without much character. Of the two Knotted Kernels, No 16 was the better, No. 17 being too bitter.

TABLE I.
SINGLE VARIETY CIDERS.

No.	Name of Variety.	District where grown.	Date of making.	Specific Gravity of Fresh Juice.	Malic Acid per cent.	Tannin per cent.	Rate of fermentation at 25°C.	Date of Filtering.	Specific Gravity May, 1926.
APPLES—									
SHARP VARIETIES—									
1	Red Norton	.. Norton Canon, Her.	.. 13/10/25	1.050	0.52	0.24	6.0	12/11/25	1.019
2	Never Blight	.. Long Ashton, Som.	.. 19/10/25	1.039	0.61	0.19	10.0	28/10/25	1.019
3	Red Dymock	.. Stourport, Wor.	.. 20/10/25	1.044	1.17	0.12	5.0	6/11/25	1.025
4	Martin's Favourite	.. " "	.. 17/10/25	1.042	1.18	0.08	5.7	27/10/25	1.027
5	Red Streak	.. Spetchley, Wor.	.. 8/10/25	1.049	0.85	0.29	6.7	26/10/25	1.028
6	Porter's Perfection	.. Martock, Som.	.. 13/11/25	1.048	0.68	0.26	3.8	18/12/25	1.030
7	Shrawley Sweet	.. Stourport, Wor.	.. 3/11/25	1.052	0.57	0.59	9.0	16/12/25	1.031
8	Frederick	.. Raglan, Mon.	.. 28/10/25	1.051	1.08	0.09	2.9	18/11/25	1.032
9	Kingston Black	.. Various	.. 11/11/25	1.060	0.77	0.31	3.5	2/2/26	1.033
SWEET VARIETIES—									
10	Sweet Alford	.. Long Ashton, Som.	.. 19/10/25	1.043	0.29	0.16	7.3	6/11/25	1.013
BITTERSWEET VARIETIES—									
11	Bramtot	.. Moorhampton, Her.	.. 19/10/25	1.053	0.28	0.35	9.3	3/11/25	1.019
12	Cherry Norman	.. Long Ashton, Som.	.. 19/10/25	1.043	0.26	0.34	5.3	9/11/25	1.022
13	Strawberry Norman	.. Long Ashton, Som.	.. 16/11/25	1.045	0.34	0.43	5.6	7/1/26	1.022
14	White Norman	.. Nunnington, Her.	.. 20/10/25	1.052	0.30	0.36	5.0	23/11/25	1.026
15	White Jersey	.. Long Ashton, Som.	.. 1/10/25	1.049	0.20	0.22	3.2	9/11/25	1.027
16	Knotted Kernel	.. " "	.. 23/10/25	1.058	0.29	0.39	5.4	12/1/26	1.025
17	Knotted Kernel	.. Moorhampton, Her.	.. 6/11/26	1.065	0.31	0.55	4.0	10/3/26	1.028
CULINARY VARIETIES—									
18	Bramley's Seedling	.. Stockton, Wor.	.. 28/10/25	1.043	0.94	0.16	9.0	9/11/25	1.021
19	Worcester Pearmain	.. " "	.. 28/9/25	1.056	0.59	0.18	12.0	5/10/25	1.000
20	" "	.. Ledbury, Her.	.. 28/9/25	1.051	0.18	0.13	13.0	5/10/25	1.001
21	" "	.. Putley, Her.	.. 28/9/25	1.060	0.59	0.17	8.5	5/10/25	1.010
22	" "	.. Hownhall, Ross. Her.	.. 9/10/25	1.060	0.56	0.21	3.2	29/12/25	1.026

Table Varieties.

The four samples of Worcester Pearmain were the most interesting of the table varieties, especially from the rate of fermentation point of view. The rates of fermentation varied from 3.2 to 13, this being principally due to the different soil conditions on which the fruit was grown. No. 22, with the lowest rate of fermentation, was by far the best cider.

PURE YEAST FERMENTATION TRIALS.

The pure culture fermentation experiments started last season on juices pasteurised with the new type of pasteuriser of French manufacture, described in last year's Report, were continued. The juice was in each case passed through the pasteuriser at a temperature of 160° F. and immediately afterwards on cooling a culture of pure yeast was added. In each series a control cask of unpasteurised, naturally fermented juice was kept for comparison with the pasteurised samples.

The yeasts used were the following, the name in brackets indicating the cider or wine from which the yeast had originally been isolated: Yeast No. 5 (Yellow Styre, 1912); No. 6 (Kingston Black, 1912); No. 9 (Sweet Alford); No. 12 (Symes' Sweet); No. 13 (Gatcombe); No. 19 (Strawberry Norman); No. 20 (Lambrook Pippin); No. 22 (Yellow Styre, 1915); No. 25 (Kingston Black, 1914); No. 27 (Johannesberg); No. 29 (Scharzhofberg); No. 31 (Rüdesheimer); No. 32 (Steinberg); No. 34 (Laureiro); No. 37 (Riesling); No. 42 (Port); No. 44 (Champagne); No. 45 (Champagne) and No. 46 (Port).

In Table II will be found the analytical data and other particulars of the pasteurised ciders.

It would occupy too much space to give a detailed description of each cider. Samples have been tried on several occasions by different cider experts and the general verdict was that no flavour due to the pasteurisation could be detected in any case, and that the influence of the different yeast types upon the flavours of the ciders was in many cases quite conspicuous. This was especially the case with the E. series, where all the five pasteurised samples differed from the control, each of them having a flavour of its own and in all cases superior to the control. In the B, C, D and F series, yeast No. 6 gave upon the whole the best results.

TABLE II.
PASTEURISED CIDERS.
CIDERS made from apples from Martock, Som. Juices pasteurised at 160°F. and fermented with Pure Yeasts.

No.	Name of Variety.	Date of making.	Specific Gravity of Fresh Juice.	Malic Acid: per cent.	Tannin per cent.	Rate of fermentation at 25°C.	Date of Filtering.	Specific Gravity, May, 1926.	Remarks on Fermentation.
23	Mixed Apples B1	13/11/25	1.052	0.39	0.29	6.4	19/1/26	1.022	† Fermented Yeast No. 42
24	" B2	"	"	"	"	"	19/2/26	1.024	" No. 46
25	" B3	"	"	"	"	"	3/2/26	1.024	" No. 42*
26	" B4	"	"	"	"	"	26/2/26	1.025	" No. 46*
27	" B5	"	"	"	"	"	1/4/26	1.026	" No. 6*
28	" B6	"	"	"	"	"	30/3/26	1.025	"
29	" C1	27/11/25	1.052	0.52	0.29	7.3	19/1/26	1.023	†
30	" C2	"	"	"	"	"	9/2/26	1.024	" No. 6
31	" C3	"	"	"	"	"	8/3/26	1.024	" No. 22
32	" C4	"	"	"	"	"	19/2/26	1.024	" No. 25
33	" C5	"	"	"	"	"	26/2/26	1.025	" No. 44
34	" C6	"	"	"	"	"	10/2/26	1.025	" No. 45
35	" D1	1/12/25	1.054	0.43	0.35	8.0	29/1/26	1.022	†
36	" D2	"	"	"	"	"	12/2/26	1.025	" No. 5
37	" D3	"	"	"	"	"	15/2/26	1.024	" No. 6
38	" D4	"	"	"	"	"	1/2/26	1.025	" No. 12
39	" D5	"	"	"	"	"	22/1/26	1.024	" No. 19
40	" D6	"	"	"	"	"	29/1/26	1.025	" No. 44
41	" E1	7/12/25	1.048	0.48	0.26	6.5	25/1/26	1.022	†
42	" E2	"	"	"	"	"	24/2/26	1.024	" No. 27
43	" E3	"	"	"	"	"	22/2/26	1.023	" No. 29
44	" E4	"	"	"	"	"	2/2/26	1.024	" No. 34
45	" E5	"	"	"	"	"	16/2/26	1.024	" No. 37
46	" E6	"	"	"	"	"	23/2/26	1.024	" No. 23
47	" F1	10/12/25	1.048	0.62	0.26	6.5	25/1/26	1.023	†
48	" F2	"	"	"	"	"	29/3/26	1.025	" No. 6*
49	" F3	"	"	"	"	"	9/3/26	1.024	" No. 9*
50	" F4	"	"	"	"	"	17/3/26	1.024	" No. 13*
51	" F5	"	"	"	"	"	29/3/26	1.025	" No. 20*
52	" F6	"	"	"	"	"	12/3/26	1.025	" No. 31*

* Pasteurised after keeving. † Control (fermented naturally).

It will be seen that the pasteurised juices fermented much slower than the controls. Also in many cases a better clearing of the juice during the fermentation took place: this was especially the case with the samples fermented with yeast No. 6.

THE NEW FRUIT AND CIDER COMPETITIONS.

With the object of stimulating greater interest in the culture of cider fruit in farm orchards and of promoting the growing of varieties of cider apples which are of the highest value from the combined points of view of the grower and the cider-maker, a novel form of competition was held for the first time.

The competition took the form of actual cider-making trials at the Institute with the respective entries of fruit. The fruit (15 cwts. in each case) was stored under uniform conditions until fit for milling. Each lot was made up at approximately the same state of ripeness and the subsequent treatment of the juice was as nearly as possible the same for each entry in any given class.

All the ciders made from entries in the same class were filtered when the juice has fermented down to the following specific gravities: Class I, 1.028; Class II, 1.030; Classes III, IV and V, 1.025.

The competition was open to bona-fide growers resident in the counties of Devon, Dorset, Gloucester, Hereford, Monmouth, Somerset and Worcester.

Details of the entries will be found in Table III.

The ciders were judged on the 26th of April, 1926 by H. J. Davis, Esq., Sutton Montis, Somerset, R. E. Ridler, Esq., Clehonger, Hereford and W. Chapman Gaymer, Esq., Attleborough, Norfolk.

Judges' Report.

The judges reported as follows:—

“The ciders in these competitions were judged by us on Monday, April 26th, so that the awards could be announced on the occasion of the Annual Tasting Day, on Thursday, May 6th. So early a date in the season involved the drawback that the ciders were still comparatively immature and allowance was made for this in considering the awards.

TABLE III.
COMPETITION VARIETIES.

No. Name of Variety.	Name of Grower.	Date of making.	Specific Gravity of Fresh Juice.	Malic Acid per cent.	Tannin per cent.	Rate of Fermentation.	Date of Filtering.	Specific Gravity at time of Filtering.	Specific Gravity of May.	District where grown.
CLASS 1.—KINGSTON BLACKS—										
55 Kingston Black	R. E. Turner	2/11/25	1.072	1.06	0.29	5.8	11/1/26	1.028	1.027	Dynock, Glos.
56 "	D. Phillips Morgan	9/11/25	1.066	0.66	0.28	3.5	2/3/26	1.028	1.028	Tewkesbury, Glos.
57 "	W. Ridley Thomas	9/11/25	1.062	0.66	0.26	3.2	30/1/26	1.028	1.028	Nunnington, Her.
58 "	H. C. Davis	2/11/25	1.065	0.83	0.32	3.0	23/2/26	1.028	1.028	Hewish, Som.
CLASS 2.—SHARP VARIETIES—										
59 Tom Tanners	J. W. Pullin	9/11/25	1.044	1.00	0.25	13.5	20/11/25	1.030	1.023	Compton Greenfield, Glos.
60 Tom Putt	W. Maynard	26/10/25	1.048	0.67	0.18	10.6	2/11/25	1.030	1.024	Martock, Som.
61 Frederick	W. R. Williams	30/10/25	1.041	0.91	0.11	8.6	4/11/25	1.030	1.025	Hampton Bishop, Her.
62 Kernels	A. H. Templeman	16/11/25	1.055	0.92	0.25	—	11/1/26	1.030	1.026	Street, Som.
63 Bramley's Seedling	E. H. Wells	9/11/25	1.048	0.91	0.18	4.0	5/12/25	1.030	1.027	Wellington, Som.
64 Gatcombe	W. Butler	2/11/25	1.052	0.64	0.17	8.3	19/11/25	1.030	1.028	Long Ashton, Som.
65 Spice Apple	W. P. Merrett	17/10/25	1.045	0.85	0.09	11.0	24/10/25	1.030	1.028	Arlingham, Glos.
66 Cosadill	Clinch & Goddard	13/11/25	1.048	0.86	0.17	7.2	11/12/25	1.030	1.028	Upton-on-Severn, Wor.
67 Frederick	S. W. Mullins	27/10/25	1.051	1.08	0.09	2.5	28/12/25	1.030	1.029	Raglan, Mon.
68 Wagstaff	P. E. Bonford	26/10/25	1.058	1.04	0.2	7.0	14/12/25	1.030	1.029	Upton, Shodsbury, Wor.
69 Cap of Liberty	R. J. Denning	2/11/25	1.055	1.10	0.31	6.3	23/12/25	1.030	1.029	Iliminster, Som.
70 "	E. V. V. Wheeler	26/10/25	1.062	1.21	0.36	4.4	4/1/26	1.030	1.030	Tenbury, Wor.
71 "	G. W. Moody	9/11/25	1.053	0.72	0.30	2.4	4/1/26	1.030	1.030	Martock, Som.
72 Brice's Kernel	D. Phillips Morgan	22/10/25	1.046	0.74	0.20	6.0	3/11/25	1.030	1.030	Tewkesbury, Glos.
73 Yellow Skyrre	"	2/11/25	1.050	0.71	0.10	3.0	20/2/26	1.030	1.030	"
CLASS 3.—SWEET VARIETIES—										
74 Sweet Blenheim	R. J. Denning	19/10/25	1.054	0.31	0.14	9.3	28/10/25	1.025	1.019	Iliminster-Som.
75 Eggleton Skyrre	F. C. Pole	17/10/25	1.048	0.44	0.16	8.0	27/10/25	1.025	1.021	Holmer, Her.
76 Iliminster Morgan	R. J. Denning	19/10/25	1.051	0.27	0.15	6.0	10/11/25	1.025	1.023	Iliminster, Som.

TABLE III.—continued.
COMPETITION VARIETIES.

CLASS 4.—BITTERSWEET VARIETIES—												
777	Rough Thorn	..	E. V. V. Wheeler	29/10/25	1.052	0.27	0.32	9.2	12/11/25	1.025	1.020	Tenbury, Wor.
778	Prince Albert	..	V. J. Davis	22/10/25	1.051	0.24	0.32	9.0	31/10/25	1.025	1.023	Berkeley, Glos.
779	Dabinett	..	J. H. Symes	2/11/25	1.050	0.26	0.33	7.6	6/1/26	1.025	1.024	Martock, Som.
780	Strawberry Norman	..	W. R. Williams	30/10/25	1.048	0.41	0.42	7.5	17/11/25	1.025	1.024	Hampton Bishop, Her.
781	Broadleaves	..	W. Maynard	26/10/25	1.057	0.37	0.45	13.3	5/11/25	1.025	1.024	Martock, Som.
782	Belle Norman	..	D. Phillips Morgan	29/10/25	1.055	0.22	0.27	7.2	12/12/25	1.025	1.024	Tewkesbury, Glos.
783	White Norman	..	J. W. Pullin	20/10/25	1.055	0.33	0.32	6.1	7/12/25	1.025	1.025	Compton Greenfield, Glos.
784	Tom Tanners	..	H. C. Davis	2/11/25	1.063	0.37	0.68	3.8	12/2/26	1.025	1.025	Hewish, Som.
785	Loyal Drain	..	E. W. Dabinett	29/10/25	1.054	0.26	0.52	6.2	23/1/26	1.025	1.025	Kingweston, Som.
786	Jerseys	..	G. W. Moody	9/11/25	1.054	0.36	0.40	2.4	22/1/26	1.025	1.025	Martock, Som.
787	Sparkler	..	E. A. Austin	2/11/25	1.050	0.31	0.30	3.4	27/2/26	1.025	1.025	Baltonsbrough, Som.
CLASS 5.—MIXED VARIETIES—												
788	Belle Norman, Frederick, and Strawberry Norman Broadleaves, Cap of Liberty,	..	W. R. Williams	30/10/25	1.045	0.73	0.24	12.6	7/11/25	1.025	1.022	Hampton Bishop, Her.
789	Pound, Jerseys and Tommy Rodford	..	W. Maynard	26/10/25	1.054	0.52	0.39	10.3	11/11/25	1.025	1.022	Martock, Som.
790	Unknown .. Pip Georges, Painted Ladies, Berkeley Pippin Jelly Apples and Hangdown Foxwhelp, Cap of Liberty	..	V. E. Naish	16/11/25	1.050	0.32	0.3	6.6	5/1/26	1.025	1.023	Yatton, Som.
791	Horners, Dabinett, and Jerseys	..	E. Atherton	2/11/25	1.048	0.72	0.29	6.0	29/12/25	1.025	1.024	Long Ashton, Som.
792	3 unnamed local varieties	..	Scott & Gent	28/10/25	1.049	0.58	0.31	4.0	21/1/26	1.025	1.024	South Petherton, Som.
793	Cap of Liberty, Jerseys and Norton Bitters	..	Clinch & Goddard	13/11/25	1.050	0.41	0.20	6.0	7/12/25	1.025	1.024	Upton-on-Severn, Wor.
794		..	G. W. Moody	10/11/25	1.055	0.48	0.35	2.7	21/1/25	1.025	1.024	Martock, Som.

TABLE III.—*continued.*
COMPETITION VARIETIES.

No. Name of Variety.	Name of Grower.	Date of making.	Specific Gravity of Fresh Juice.	Malic Acid per cent.	Tannin per cent.	Rate of Fermentation.	Date of Filtering.	Specific Gravity at time of Filtering.	Specific Gravity of May, 1926.	Specific Gravity District where grown.
Normandy, White Beach, Red	R. E. Turner	28/10/25	1.053	0.89	0.24	4.8	7/11/25	1.025	1.024	Dymock, Glos.
95 Wilding, Reynolds.										
Devon Sweets, Old Soldier and Styre										
Brices Kernel	D. Phillips Morgan	3/11/25	1.051	0.58	0.27	7.0	28/12/25	1.025	1.024	Tewkesbury, Glos.
96 Belle Norman and Cowarne Red										
Tom Tanners, Meedyeats,										
97 Red Jersey and Hangdowns	H. C. Davis	2/11/25	1.050	0.58	0.42	2.6	2/3/26	1.025	1.025	Hewish, Som.
Loyal Drain, Cap of Liberty,										
98 Doves, Boon's Red, and Striped Norman										
White Styre,	E. W. Dabinett	28/10/25	1.052	0.66	0.34	3.6	23/12/25	1.025	1.025	Kingweston, Som.
99 Sweet Alford and Royal Wilding										
Cap of Liberty Dabinett,										
100 Royal Jerseys and Horners	J. H. Symes	2/11/25	1.050	0.52	0.35	3.6	16/2/26	1.025	1.025	Martock, Som.

Of the five classes into which the ciders were divided, Class I was for the variety Kingston Black. None of the four entries was really typical of this variety and all were considerably below its best standard. Since the 1925 crop was very scarce, this result was not unexpected.

Class II was composed of single variety ciders made from apples of the sharp class, Class III of single varieties of the sweet class, and Class IV of single varieties of the bittersweet class. In each of these no attempt was made to judge the ciders as finished products, since from the nature of the classes it was obvious that suitable blending would be required to furnish a commercial article. This fact was allowed for and the ciders were judged from the standpoint of their value to the cider-maker, if appropriately blended.

Class II may be rated as a strong class for the season, both in number of entries and quality. Every exhibit could be considered as worthy of mention. The quality throughout was generally very level and it was difficult to decide upon the order of merit.

Class III contained only three entries. None were outstanding in character, but each was a fair type for the class for the season.

Class IV was another strong class, numerically and in quality. Practically every entry with suitable blending could be converted into a useful commercial cider.

Class V composed of ciders made from mixed varieties of apples, selected and blended in proportions by the individual exhibitors, was strong in number of entries, but disappointing in quality. Few of the ciders approached a suitable commercial standard, the fault mainly resting in the proportions of the respective varieties selected for the blends. In most cases the bittersweet tannin character was too pronounced.

We consider that in view of the short apple crop of 1925, a very encouraging start has been made with these competitions and we are impressed, both from the general character of the ciders themselves and the absence of any taints, by the extremely fair and equal treatment given during the making to all samples, thus enabling every entry of fruit to be judged fairly on its own merits.

The list of awards is as follows :—

Class 1.		KINGSTON BLACK.	
Equal First	.. ..	* { 56	D. Phillips Morgan, Tewkesbury, Glos.
		{ 57	W. Ridley Thomas, Nunnington, Her.
Reserve	.. ..	58	H. C. Davis, Hewish, Som.

<i>Class 2.</i>		SHARP VARIETY.	
First Prize	.. ..	67	S. W. Mullins, Raglan, Mon.
Second Prize	.. ..	68	P. E. Bomford, Upton Snodsbury, Wor.
Reserve ..	.. ..	64	W. Butler, Long Ashton, Som.
Highly Com.	.. ..	69	R. J. Denning, Ilminster, Som.
Commended	.. ..	61	W. R. Williams, Hampton Bishop, Her.
Commended	.. ..	63	E. H. Wells, Wellington, Som.

<i>Class 3.</i>		SWEET VARIETY.	
First Prize	.. ..	76	R. J. Denning, Ilminster, Som.
		{ 74	Ditto.
Equal Second	.. ..	{ 75	F. C. Pole, Holmer, Her.

<i>Class 4.</i>		BITTER SWEET VARIETY.	
First Prize	.. ..	79	J. H. Symes, Martock, Som.
Second Prize	.. ..	83	J. W. Pullin, Compton, Greenfield, Glos.
Reserve ..	.. ..	82	D. Phillips Morgan, Tewkesbury, Glos.
Highly Com.	.. ..	80	W. R. Williams, Hampton Bishop, Her.
Ditto	.. ..	81	W. Maynard, Martock, Som.
Commended	.. ..	78	V. J. Davis, Berkeley, Glos.

<i>Class 5.</i>		MIXED VARIETIES.	
First Prize	.. ..	93	Clinch & Goddard, Upton-on-Severn, Wor.
Second Prize	.. ..	100	J. H. Symes, Martock, Som.
Third Prize	.. ..	98	E. W. Dabinett, Kingweston, Som.
Reserve ..	.. ..	96	D. Phillips Morgan, Tewkesbury, Glos.
Very Highly Com.	.. ..	95	R. E. Turner, Dymock, Glos.
Commended	.. ..	91	E. Atherton, Long Ashton, Som.
Commended	.. ..	92	Scott & Gent, South Petherton, Som.

* The numbers stated refer to the ciders described under the corresponding numbers in Table III.

THE USE OF SULPHUR DIOXIDE AS A PRESERVATIVE IN CIDER.

By B. T. P. Barker and O. Grove.

At the outset it should be stated that cider can be made without any special processing or unusual methods to keep in sound condition for a practically unlimited length of time. No added preservatives are necessary and there are many makers who never use them. At the Institute thousands of samples have been made from the most diverse types of cider apples without the aid of such substances and without any difficulty on the score of keeping quality: it is only in occasional instances and with certain classes of apples that disorders have developed.

In the face of this declaration it may well be asked why the addition of preservatives should not be absolutely prohibited and why recent legislation has given official sanction to the use of one

particular form. The latter development has already involved the Institute in investigations and discussions, official and private, concerning both the political and technical side of this subject, and it is inevitable that it should be even more associated with it in future. The writers of the present article feel, therefore, that this opportunity should be taken to state the attitude of the technical staff at the Institute, which they represent, before proceeding to any detailed account of work on preservatives for cider which has been done in the past or may be done in the future.

As stated in the opening paragraph, it is their view that good, sound, long-keeping cider can be made without the use of any added preservative. It may indeed be further added that, provided the maker is in a position to control the conditions under which the cider is kept until consumption, there is, in their opinion, no justification for such additions.

On the other hand it has to be recognised that the cider industry has completely passed the phase when it was a local industry pure and simple, and when consumption was confined to the maker's premises or in the near vicinity in such a manner that he could control the conditions of storage almost up to the actual time of consumption. To-day cider is distributed far from the centres of production and is sent to all parts of the world in the course of export trade. From the time the finished product leaves his cellars the maker may completely lose subsequent control of the conditions to which it is subjected in the ordinary course of trade and in most cases must perforce be unaware of the vicissitudes to which it is exposed before consumption.

Now it is incontestable that the ordinary cider is a beverage of unstable and ever-changing character owing entirely to its nature and composition. It normally contains decomposable material among its natural constituents and possesses no inherent natural preservative in effective quantity. It follows therefore that, unless it is kept under appropriate conditions, changes may be induced which cause more or less serious deterioration. Even when storage conditions are as good as can reasonably be expected, there is an ever-present risk of this happening.

Regarded from the purely commercial point of view, it is essential that such risks should be entirely eliminated if possible, and certainly reduced to order of a remote possibility, if the article is to be accepted as one on which a stable industry can be built up.

. Taking all these points into consideration, it is contended that the addition of a suitable form of preservative to cider can be justified in the case of this beverage as in the case of any other perishable article, when the cider-maker in the ordinary course of his business finds such addition necessary as a safeguard against risk of decomposition before consumption.

THE NEW REGULATIONS ON PRESERVATIVES.

The two most commonly employed preservatives have hitherto been sulphur dioxide and salicylic acid. Under the new regulations of the Ministry of Health which came into force on January 1, 1927, the latter is now prohibited in cider and the only preservative permitted from that date is sulphur dioxide, the maximum amount allowed being 0.02 per cent. (1 part in 5,000 parts), i.e., 14 grains per gallon (3.2 oz. per 100 gallons) of total sulphur dioxide.

However desirable it may be to dispense altogether with preservatives in the making of cider, the use of sulphur dioxide within the limit given above cannot be open to very serious objection. It has been used in the making of wines and cider for centuries and is considered harmless from the health point of view in such small quantities as are under consideration here.

In view of the legislation on the use of sulphur dioxide within the limits specified, it is clear that the Institute will receive from the cider industry enquiries concerning various technical points involved in its use. Many in fact have already been sent in. Apart from general advice which has been given to enquirers, information on specific points has been provided as the result of experimental work undertaken in connection therewith. In the face of this demand for information it may be useful to include from time to time in the Annual Reports some account of the various questions which have come under consideration and have been investigated.

The present article reviews the position with regard to a number of such questions which have already been raised. It necessarily contains much that is common knowledge among many who have had occasion to deal with sulphur dioxide previously; but for the benefit of those who have not, matter has been included which would not normally be referred to in detail in a paper concerned primarily with research.

MODES OF USE OF SULPHUR DIOXIDE.

Sulphur dioxide can be applied in cider making in three different ways: (1) by burning sulphur and allowing the cider to absorb the sulphur dioxide so formed, (2) by direct addition to the cider as pure sulphur dioxide, and (3) by addition in the form of potassium, sodium or calcium salts of sulphur dioxide.

- (1) In the first case gaseous sulphur dioxide is produced by burning sulphur either in sticks, in powder form, or as the so-called sulphur matches in casks or other enclosed vessels containing cider or about to be filled with cider. When sulphuring large vats or tanks sulphur in sticks or as powder may be used. It is put in a small container of iron or other metal, which is suspended by means of steel wires, (not copper), in the vat, the sulphur is ignited and the vat closed to prevent the escape of the gas.

Sulphur matches are more convenient for smaller casks. They are easily made by dipping strips of calico in molten sulphur. The sulphur should be melted slowly and kept at a comparatively low temperature. If heated too much it turns dark in colour and assumes a viscous consistency. The match is introduced into the cask after placing it in a small wire cylinder with a cup-shaped bottom, so as to prevent any sulphur dripping in the cask; or it can be tied with thin wire to a piece of stout wire, which has at its end a small metal receptacle (a shaving-soap tin will do). The sulphur is then set alight and the cask lightly bunged. The burned out match is then withdrawn from the cask before introducing the juice or the cider; care should be taken that in doing so all the incinerated parts of the match are removed.

The disadvantage of these methods of introducing sulphur dioxide is that it is impossible in practice to control the exact quantity of the substance absorbed by the juice or cider. When sulphur burns in air one part of sulphur combines with an equal weight of oxygen taken from the air and two parts of sulphur dioxide are formed; thus, one ounce of sulphur completely burned, produces two ounces of sulphur

dioxide. It is therefore a simple matter to calculate the amount of sulphur to burn to get any desired amount of sulphur dioxide. The difficulty is, however, that the whole of this substance is not absorbed by the juice or cider.

In considering how to deal with this difficulty in face of the limitations now imposed by the Ministry of Health it occurred to the writers that there might be some approximate relation between the amount absorbed by the liquor and that remaining unabsorbed in the air-space in the cask. To obtain information on this point the following experiments were made.

The first experiments were conducted in the laboratory with small amounts of juice in glass containers. In one set of experiments a small weighed quantity of sulphur was burned in a flask with a content of $2\frac{1}{2}$ litres. Immediately after the combustion of the sulphur the flasks were filled with apple juice and the sulphur dioxide in the juice determined. The average amount of sulphur dioxide taken up by the juice was 58 per cent. of the total amount of sulphur dioxide present in the flask as the result of the burning of the sulphur.

In another set of experiments 100 cc. of juice and 500 cc. of juice respectively were placed in the flask before burning the sulphur and after combustion the flasks were immediately filled with juice. Under these conditions it was found that it did not matter much whether 100 cc. or 500 cc. were placed initially in the flasks; in both cases an average of 76 per cent. of the total sulphur dioxide produced was absorbed by the juice.

The same types of experiments were repeated on a larger scale in the cider house. In the first case 58.15 grams sulphur were burned, (corresponding to 116.3 grams sulphur dioxide), in a wet 100 gallon cask and the cask was immediately afterwards filled with juice. The juice was found to contain 55.79 grams of sulphur dioxide, or 47 per cent. of the total. In other experiments 10 gallons of juice were put in the cask before burning

the sulphur, with the result that 71 per cent. of the total sulphur dioxide was absorbed by the juice.

The laboratory experiments were consequently nearly confirmed under practical conditions in the cider house. The statement that about 50 per cent. of the possible sulphur dioxide is absorbed by the juice when sulphur is burned in the empty and wet cask and that about 75 per cent. of the sulphur dioxide is absorbed when the cask contains about one-tenth of the juice before burning, will be found fairly correct in practice, although minor variations should be allowed for.

- (2) The second way of using sulphur dioxide is its direct addition in its pure form. It is a gas easily condensed by pressure into a colourless liquid, and can be obtained in commerce as such in glass syphons, or in steel cylinders. In France several different types of measuring apparatus are on the market. They generally consist of a steel container connected with a small graduated glass-cylinder, in which the liquid sulphur dioxide can be measured under pressure in any quantity wanted. After measuring the liquid, the cylinder is connected with a piece of glass or tin tubing, the other end of which is inserted into the juice or cider. When the tap is opened the measured quantity of the liquid sulphur dioxide volatilises and passes as a gas into the juice, where it is immediately absorbed. With an apparatus of this description it is a simple matter to dose the liquid exactly with any quantity of sulphur dioxide wanted.
- (3) A third method is also available. It consists in using a salt of sulphur dioxide. There are several possible salts to select from, such as bisulphite of soda, bisulphite of potassium and bisulphite of lime.

Bisulphite of soda cannot be recommended. Sodium compounds are present in apple juice in very small quantities only, and salts of that element are liable to produce deposits and have undesirable effects on the flavour.

Potassium salts are preferable and the best of them for general use is undoubtedly potassium meta-bisulphite.

This salt is obtainable in the form of small crystals and contains, when pure, 57.6 per cent. of sulphur dioxide. The ordinary article of commerce contains, however, only about 55 per cent. of sulphur dioxide. When using the commercial product in practice it is generally taken to contain 50 per cent. of sulphur dioxide. Therefore, an amount of the salt twice the weight of the quantity of sulphur dioxide required may be used, which means, under the regulations, a maximum dose of 28 grains of potassium meta-bisulphite per gallon (6.4 oz. per 100 gallons). It may be added to the cider in solid form and in that case the juice or cider should be stirred up about 24 hours after its addition; or it can first be dissolved in a little warm water before addition.

The calcium salt, bisulphite of lime, is sold in liquid form and has the disadvantage that the content of sulphur dioxide is variable. Otherwise there is no serious objection to using this salt as a source of sulphur dioxide.

Sometimes sulphurous acid, which is a solution of sulphur dioxide in water, is used. The objection to sulphurous acid is the same as in the case of bisulphite of lime, viz., that the content of sulphur dioxide is variable.

The use of potassium meta-bisulphite is probably the most convenient and the most exact method of sulphuring for the small maker. Works on a larger scale will find the liquefied gas previously referred to more economical and it has too the advantage that nothing but sulphur dioxide is introduced. There can, however, be no material objection to the introduction of small quantities of the potassium compound in the cider, since other potassium salts are already present.

ESTIMATION OF SULPHUR DIOXIDE.

The method used for the quantitative determination of sulphur dioxide in the experiments just mentioned and in experiments mentioned later was the following. 50 cc. of the juice or cider are measured into a distillation flask and 20 cc. of a 20 per cent. solution of glacial phosphoric acid are added. The distillation flask is connected with an apparatus generating carbonic acid gas and

with a cooling condenser, to which is attached a peligot-tube with both bulbs filled to about one-third with a weak solution of iodine. After passing a stream of carbonic acid gas through the whole apparatus the distillation flask is gently heated, and the distillation is continued until about 10 cc. are left. The stream of carbonic acid gas is kept going during the distillation. After the distillation the iodine solution is washed out of the peligot-tube and put in a beaker: after addition of a few drops of hydrochloric acid the solution is boiled until colourless. To it is then added more hydrochloric acid and barium chloride. It is then boiled for 15 minutes. After keeping the beaker in a warm place for 24 hours, the barium sulphate is separated by filtration, ignited and weighed in the usual way.

MODES OF ACTION ON APPLE JUICE AND CIDER.

Sulphur dioxide acts directly upon the micro-organisms in the cider, checking or hindering their development. Hence its preservative effect. To stop the fermentation completely a much higher dose than the maximum allowed, 0.02 per cent., is necessary.

The checking action varies with different juices and ciders, depending on the content of nitrogenous material in the juice. It is well known that some juices contain less nitrogenous food material for the yeast than others, and consequently have a slower rate of fermentation. In such juices even a dose of 0.02 per cent. of sulphur dioxide will sometimes stop fermentation nearly completely for a considerable time: therefore care must be taken in adding sulphur dioxide to juices of this description.

The check upon the rate of fermentation is seen from the following experiments.

To a number of flasks, each containing $2\frac{1}{2}$ litres of freshly pressed juice, were added at the outset varying amounts of sulphur dioxide (Series A.). Other similar flasks of juice were left to ferment for six days and then the juice was racked from the yeast deposit into other similar flasks and sulphur dioxide added in the same quantities as above (Series B.). In the C. Series half the dose of sulphur dioxide was added at the outset, the other half being added after racking. The flasks were closed with a fermentation lock and kept at room temperature, the specific gravities being taken at regular intervals.

Table I. sets out the results in detail.

TABLE I.

Series	No.	% of Sulphur dioxide added. at start.	Specific gravity at start.	% of Sulphur dioxide added. after 1 week.	Specific gravity after 1 week.	Specific gravity after 2 weeks.	Specific gravity after 3 weeks.	Specific gravity after 4 weeks.	Specific gravity after 5 weeks.	Specific gravity after 6 weeks.	Specific gravity after 7 weeks.
A.											
Sulphur dioxide added immediately	1	Control	1.047	1.035	1.023	1.010	1.000				
	2	0.010	1.047	1.038	1.024	1.011	1.001				
	3	0.015	1.047	1.039	1.026	1.014	1.003				
	4	0.020	1.047	1.041	1.029	1.016	1.005				
B.											
Sulphur dioxide added after racking	1	Control	1.034	1.023	1.011	1.006	1.003	1.002	1.000	1.000	
	2	0.010	1.034	1.033	1.030	1.028	1.025	1.020	1.018	1.013	
	3	0.015	1.034	1.034	1.033	1.031	1.030	1.026	1.024	1.020	
	4	0.020	1.034	1.034	1.034	1.034	1.033	1.030	1.029	1.024	
C.											
Half the Sulphur dioxide added immediately, the other half after racking	1	Control	1.047	1.034	1.024	1.013	1.007	1.003	1.001	1.000	
	2	0.005	1.047	1.037	1.028	1.019	1.010	1.005	1.002	1.000	
	3	0.0075	1.047	1.038	1.032	1.024	1.015	1.009	1.003	1.001	
	4	0.010	1.047	1.040	1.034	1.027	1.020	1.013	1.005	1.002	

It will be seen from Series A. that the effect of the sulphur dioxide upon the fermentation of the juice, which was of the quick fermenting type, (rate of fermentation at 25° C. 10), was not very striking in this case. Even the maximum amount, 0.02 per cent., (14 grains per gallon), did not check the fermentation to a very considerable extent.

When considering the rates of fermentation in the B. Series quite another picture presents itself. In this case, where the juice had been deprived of the first yeast crop by racking after 6 days, the subsequent addition of sulphur dioxide has a very marked effect. In the case of No. 4 (the maximum dose) the juice took over two months to ferment from a specific gravity of 1.034 down to 1.010 at room temperature.

In the C. Series the checking effect was not nearly so pronounced.

THE FATE OF SULPHUR DIOXIDE IN CIDER.

The whole of the sulphur dioxide does not remain as such in the juice or cider, but combines to a certain extent with different constituents of the juice, especially with the sugars and aldehydes, and a certain percentage is oxidised into sulphuric acid.

To find the rate of disappearance of the sulphur dioxide, twelve 2½ litre flasks were filled with unfiltered, once racked, cider of a high specific gravity (specific gravity 1.039, malic acid 0.21%, tannin 0.15%, alcohol 0.8%, rate of fermentation of juice at 25° C. 3.) and were dosed with varying amounts of sulphur dioxide. The bottles were closed with a fermentation lock and kept in darkness in the cellar.

Table II. shows the rates of fermentation and the amounts of residual sulphur dioxide in the respective cases.

It will be seen that the rate of fermentation of this naturally slow fermenting juice was very considerably checked by the addition of sulphur dioxide. As regards the loss of sulphur dioxide it varied from 7 per cent. to 27 per cent., the average loss being 16 per cent. The loss was proportionately higher in the low concentrations (Nos. 1 to 4), than in the higher concentrations.

With the doses of sulphur dioxide permitted, (up to and including No. 7), it will be safe to reckon on an average loss of about 15 per cent.

TABLE II.

No.	% Sulphur dioxide added.	Specific gravity at start.	Specific gravity after 1 week.	Specific gravity after 3 weeks.	Specific gravity after 5 weeks.	Specific gravity after 7 weeks.	Specific gravity after 9 weeks.	Specific gravity after 12 weeks.	% of Sulphur dioxide left.
0	Control	1.039	1.033	1.032	1.028	1.022	1.016	1.011	—
1	0.005	1.039	1.034	1.033	1.028	1.023	1.016	1.012	0.0037
2	0.0075	1.039	1.034	1.033	1.028	1.022	1.016	1.011	0.0053
3	0.010	1.039	1.035	1.034	1.029	1.023	1.017	1.012	0.0081
4	0.0125	1.039	1.037	1.036	1.033	1.029	1.023	1.020	1.0103
5	0.0150	1.039	1.038	1.038	1.036	1.033	1.030	1.026	0.0130
6	0.0175	1.039	1.039	1.038	1.037	1.034	1.031	1.028	0.0142
7	0.0200	1.039	1.039	1.039	1.037	1.034	1.032	1.028	0.0174
8	0.0225	1.039	1.039	1.039	1.037	1.035	1.032	1.030	0.0190
9	0.0250	1.039	1.039	1.039	1.038	1.036	1.033	1.031	0.0233
10	0.0275	1.039	1.039	1.038	1.038	1.037	1.033	1.032	0.0240
11	0.0300	1.039	1.039	1.039	1.038	1.037	1.033	1.032	0.0275

From the flavour point of view it was observed that the characteristic flavour of sulphur dioxide, which is easily distinguished in the early stages, could not be detected in the samples Nos. 1 to 7 after 12 weeks; in sample No. 8 the flavour was just distinguishable then, and in Nos. 9, 10 and 11, it was easily detected.

A similar experiment was carried out with bottled cider. A blend of different ciders (analysis: specific gravity 1.019, malic acid 0.44%, tannin 0.21%, alcohol 3.4%) was bottled with the addition of varying amounts of sulphur dioxide, (A), and potassium meta-bisulphite, (B). The bottles were kept in the cellar and the contents of sulphur dioxide determined after about four months keeping.

The results are stated in Table III.

TABLE III.

No.	A.		B.	
	% Sulphur dioxide present at start	% Sulphur dioxide present after 4 months	% Potassium meta-bisulphite present at start	% sulphur dioxide present after 4 months
1	0.005	0.0037	0.010	0.0037
2	0.0075	0.0059	0.015	0.0054
3	0.0100	0.0093	0.020	0.0081
4	0.0125	0.0108	0.025	0.0103
5	0.0150	0.0114	0.030	0.0114
6	0.0175	0.0141	0.035	0.0147
7	0.0200	0.0180	0.040	0.0163
8	0.0250	0.0201	0.050	0.0212
9	0.0300	0.0256	0.060	0.0251

The potassium meta-bisulphite used contained 55 per cent. sulphur dioxide and its weight added was exactly double that of the corresponding sulphur dioxide. The loss of sulphur dioxide during storage was similar in both cases, the average being about 17 per cent. in both cases.

As regards the influence of the addition of sulphur dioxide and potassium meta-bisulphite upon the flavour of the bottled cider, the results were the same as in the experiments described above,

namely that only the doses above the maximum permitted (0.02% and 0.04% respectively) gave a flavour of sulphur dioxide that could be detected easily after the period of storage.

As to the most effective time of adding the sulphur dioxide, the best result as far as the checking of the fermentation is concerned, is obtained when the addition takes place after keeving or the first racking—generally 6-8 days after making—but there is also something to be said for adding it in two stages, e.g. three-fourths of the dose after keeving and one-fourth to the finished cider in the early spring. This last method would probably increase its action against the development of bacteria in the finished cider.

For unfiltered draught cider another procedure might be found useful in many cases. To a quantity of the freshly pressed juice might be added five times the maximum permitted (0.1% sulphur dioxide or 0.2% potassium meta-bisulphite, corresponding to 1lb. sulphur dioxide or 2lbs. potassium meta-bisulphite per 100 gallons); this will completely stop fermentation and the juice can be kept substantially unchanged for many months. This unfermented juice might then during the following summer be mixed, in suitable proportions, with dry cider, made in the usual way without any addition of sulphur dioxide, so that the content of sulphur dioxide in the mixture as a whole does not exceed the permitted amount. If, for example, the juice has had added to it five times the maximum permissible dose, one part of this preserved juice should be mixed with four parts of the dry cider, to which no sulphur dioxide has been added.

ANNUAL REPORT OF THE CONSULTING CHEMIST FOR 1926.

(Dr. J. A. Voelcker, M. A., F. I. C.).

During the year, 33 samples altogether were submitted for examination, and, in addition, 25 samples of Cider were analysed in connection with the Society's Show at Watford.

The Samples were sent by seven different members, one in particular, as usual, forwarding the great majority.

The list of analyses made is as follows :—

FEEDING STUFFS.

Linseed Cake	..	..	..	..	..	..	..	5
Cotton Cake	• ..	..	..	..	..	..	..	1
Decorticated Cotton Cake		..	..	..	..	..	..	1
Palm Kernel Cake	..	..	..	..	..	..	..	3
Compound Cake	..	..	..	..	..	..	..	5
Dried Grains	..	..	..	..	..	..	..	1
Sugar Beet Pulp	..	..	..	..	..	..	..	1
Fish Meal	..	..	..	..	..	..	..	2
Sterilised Bone Flour	..	..	..	..	..	..	..	1

FERTILISERS.

Superphosphate	..	..	..	..	..	..	..	2
Basic Slag	..	..	..	..	..	..	..	2
North African Phosphate	..	..	..	..	..	..	..	2
Kainit	..	..	..	..	..	..	..	2
Nitrate of Soda	..	..	..	..	..	..	..	1
Lime	..	..	..	..	..	..	..	2

WATER	..	..	..	..	..	..	..	2
								<hr/> 33 <hr/>

Of feeding stuffs it may be said generally that they were genuine and as represented. In several cases, however, notably with Linseed cake, the prices charged were found to be disproportionate to the quality.

A feature, brought out by the greater attention now given to the "rationing" of stock, and notably of dairy cattle, has been exemplified in the sending of samples of "ration cubes," etc. As a rule these have been found to contain the ingredients stated regarding them.

All the fertilisers sent for analysis were satisfactory and also fair-priced, in some cases decidedly cheap; two samples of lime were of fair quality also.

There were two samples of water submitted, but none of soil.

A. FEEDING STUFFS.

1. LINSEED CAKE.

All the five samples sent were what might fairly be called "pure," but, as shown in the following table, there was considerable variation in quality and in price charged.

				A.	B.	C.
Moisture	..	..	..	12.14	12.49	12.58
Oil	..	..	..	12.32	9.07	8.04
Albuminoids	..	..	..	30.37	30.68	30.87
Carbohydrates	..	..	..	33.54	35.32	36.55
Woody Fibre	..	..	..	6.31	6.66	6.31
*Mineral Matter	..	..	..	5.32	5.78	5.65
				100.00	100.00	100.00
Nitrogen	..	..	..	4.86	4.91	4.94
*including Sand	..	..	..	.46	.16	.19

A. cost £12 10s. per ton delivered, and was fair-priced, being high in oil. B, with over 3 per cent. less oil and costing £12. 15s. per ton delivered, was decidedly dear, a remark equally applying to C, with one per cent. less oil and costing £12 7s. 6d., also delivered.

2. UNDECORTICATED COTTON CAKE.

Moisture	..	..	..	..	..	..	12.74
Oil	..	..	..	..	..	..	7.14
Albuminoids	..	..	..	..	..	..	23.62
Carbohydrates	..	..	..	..	..	..	33.94
Woody Fibre	..	..	..	..	..	..	17.55
*Mineral Matter	..	..	..	..	..	..	5.01
							100.00
Nitrogen	..	..	..	..	..	..	3.78
*including Sand	..	..	..	..	..	..	.13

This was a very nice, clean and fresh cake, considerably above the average, and costing only £7 2s. 6d. per ton delivered.

3. DECORTICATED COTTON CAKE.

Moisture	9.92
Oil	12.46
Albuminoids	36.31
Carbohydrates	27.59
Woody Fibre	7.40
*Mineral Matter	6.32
	<hr/>
	100.00
Nitrogen	5.81
*including Sand .. .. .	.13

This was a dark-coloured, and not well decorticated cake, of only moderate quality.

4. PALM KERNEL CAKE.

The three samples were all pure and much about the same, giving 7-8 per cent of oil and 18-19 per cent of albuminoids.

5. COMPOUND FEEDING CAKES, "RATION CUBES," ETC.

These, as stated, generally conformed to guarantee and there was no instance where materials of doubtful or worthless nature had been used.

6. DRIED GRAINS.

This sample was quite good.

7. DRIED SUGAR BEET PULP.

An analysis of this may be of interest. It was as follows :—

Moisture	10.43
Oil	1.46
Albuminoids	9.19
Carbohydrates	61.13
Woody Fibre	14.40
*Mineral Matter	3.39
	<hr/>
	100.00
Nitrogen	1.47
*including Sand .. .. .	.23

8. FISH MEAL.

In both cases the guarantees were met, oil and salt not being excessive in either.

9. STERILISED BONE FLOUR.

Materials for supplying the mineral requirements of stock, and to which considerable attention has been drawn of late, are now more frequently met with. The sterilised bone-flour sent contained 72.02 per cent. of phosphate of lime and 1.22 per cent of nitrogen.

B. FERTILISERS.

1. SUPERPHOSPHATE.

The samples sent were alike good and low priced—the first, containing 35.48 per cent. of soluble phosphate, cost 67s. 6d. per ton delivered, and the second, 31.56 per cent. of “soluble” at 65s. per ton delivered.

2. BASIC SLAG.

Both samples sent were of good quality and also well ground, the first, with 39.22 per cent. of Phosphates and 82.6 per cent. of “fineness,” was cheap at £3 10s. per ton delivered, and the other, with 40.31 per cent. phosphates and 86.7 per cent. “fineness,” good value at the price (£3 17s. per ton delivered) charged.

3. NORTH AFRICAN PHOSPHATE.

The same remarks apply to North African Phosphate, now the cheapest form of phosphatic supply. One delivery tested 60.72 per cent. phosphate with 81.8 per cent “fineness,” and the other, costing only 70s. per ton delivered, showed 61.48 per cent. of phosphates and 81 per cent. of “fineness.”

4. KAINIT.

These samples tested respectively 13.13 per cent and 14.83 per cent of Potash (K_2O).

5. NITRATE OF SODA.

This was of 97.5 per cent. purity.

6. LIME.

Analyses of the two samples sent were :—

	A.	B.
Lime	73.16	76.51
Magnesia	—	.78
Oxide of Iron and Alumina	5.57	3.76
Silica	10.34	10.46
Carbonic acid, water, &c.	10.93	8.49
	<hr/> 100.00	<hr/> 100.00

A, with 73.16 per cent of lime (CaO), was of fair quality and just about worth getting at the price—36s. 6d. per ton delivered—while B—at 16s. per ton only (without carriage)—was cheap.

C. MISCELLANEOUS.

1. WATER.

One of the two waters sent was a good and useful supply. It gave 13.16 grains per gallon of Total Solids. The other water was a very soft one, having only 5.04 grains per gallon of Total Solids, and as such it acted rapidly on iron and on galvanised-iron pipes, destroying these. Some deposit sent me at the same time proved to be entirely hydrated oxide of iron from an iron pipe so attacked. The only remedy in such a case is to use iron pipes coated inside with tar or with Dr. Angus Smith's, or similar, composition to prevent the dissolving action.

2. RIVER WEEDS.

Along the banks of rivers, and notably fishing streams, heaps of cut weeds are frequently accumulated and are left to get partly dry. The question arose in one case brought to my notice whether these would have any manurial or other value if spread on the land and ploughed in. The following analyses made of the partly dried weeds show them to have distinct value, and, even when reckoned on the same basis of moisture content as farmyard manure generally has, they would seem to be slightly higher than it in nitrogen, and, though much poorer in phosphates, would have about twice as much potash.

ANALYSIS.				River In partly- dried state, as received	Weed In absolutely dried state.	Farmyard Manure (good average).
Moisture	..	..	..	31.00	—	75.42
*Organic Matter	..	..	..	56.03	81.20	16.52
Oxide of Iron and Alumina	..	..	..	.26	.38	.36
Lime	..	..	..	3.12	4.53	2.28
Magnesia and **Alkalies, etc.	..	..	..	7.07	10.24	2.22
***Phosphoric Acid	..	..	..	.49	.71	.44
Silica and Sand	..	..	..	2.03	2.94	2.76
				100.00	100.00	100.00
*containing Nitrogen	..	..	..	1.99	2.88	.59
equal to Ammonia	..	..	..	2.42	3.50	.72
**including Potash (K_2O)	..	..	..	2.74	3.98	.48
***equal to Phosphate of Lime ($Ca_3P_2O_8$)				1.07	1.55	.96

A sample of the weed as removed direct from the river contained, however, as much as 92 per cent. of water, and this consideration would, in view of the cost of carting to any distance so much water, make such use unremunerative. But if the weed was allowed to partly dry in a heap, it would, on land deficient in vegetable matter, have a distinct manurial use, apart from the mechanical benefit to be derived from incorporating such material in heavy land that wanted opening out.

Bath and West and Southern Counties Society.

WATFORD MEETING, 192

JUDGES.

HORSES.

Shire.—J. FORSHAW, Hillside, Sutton-on-Trent, Newark.

Percherons and Hunters.—Captain T. L. WICKHAM BOYNTON, Burton Agnes Hall, East Yorks.

Suffolk.—E. H. PRESTON, Wood Farm, Worlingworth, Framlingham, Suffolk.

Arabs.—Brigadier-General T. R. F. BATE, Glenmonnow House, Garway, Herefordshire.

Polo and Riding Ponies and Saddle.—W. G. LAMBARDE, Bradbourne Hall, Sevenoaks.

Shetland.—A. H. FOX-BROCKBANK, The Croft, Kirksanton, Silecroft, Cumbs.

Harness.—A. BOWIE, Poyle Place, Colnbrook, Bucks.

Jumping.—Lieutenant-Colonel Lord WYNFORD, D.S.O., Wynford House, Maiden Newton, Dorset.

CATTLE.

Devon.—C. BRENT, Clampit, Callington, Cornwall.

South Devon.—J. M. WOODLEY, Degembris, Newlyn East, Newquay, Cornwall.

Shorthorn.—J. DEANE WILLIS, Stratton Park, near Swindon.

Dairy Shorthorn and Milk Recorded.—R. HOBBS, Kelmscott, Lechlade Glos.

Hereford.—R. MEDLICOTT, Brockington, Bodenham, Herefordshire.

Sussex.—H. S. GREAVES, The Toll, Buxted, Sussex.

British Friesian.—STUART HEATON, Iken, Tunstall, Suffolk.

Aberdeen-Angus.—W. R. BOARD, Great Frampton, Llantwit Major, Cardiff.

Red Poll.—D. F. SMITH, Easton, Wickham Market.

Welsh Black.—T. C. OWEN, Penrhos Estate Office, Holyhead.

Ayrshire.—A. KIRKPATRICK, Barr, Sanquar, Dumfries.

Blue Albion.—F. C. STEVENSON, The Manor House, Swepstone, Leicester.

Jersey Bulls.—H. B. NAPIER, Ashton Court Estate Office, Long Ashton, Bristol.

Jersey Cows and Helfers.—H. PADWICK, C.B.E., The Red House, West Ashling, Chichester.

Guernsey.—G. TITUS BARHAM, Sudbury Park, Wembley.

Kerry.—Brigadier-General G. LL. PALMER, Berryfield, Bradford-on-Avon.

Dexter.—S. WOODIWISS, Graveleys, Great Waltham, near Chelmsford.

SHEEP.

Devon Longwooled.—R. COOK, Whitnage, Tiverton, Devon.

Kent or Romney Marsh.—Colonel J. BODY, D.S.O., O.B.E., Wittersham Court, Wittersham, Kent.

Southdown.—H. E. CRAWFORD, The Home Farm, Nonington, Dover.

Hampshire Down.—J. DEAN, 65, Wilton Road, Salisbury.

Oxford Down.—W. H. HITCH, Elkstone Manor, Elkstone, near Cheltenham

Dorset Horn.—J. C. DAVY, Yondover, Beaminster, Dorset.

Suffolk.—C. J. RUSH, Hall Farm, Newmarket.

Ryeland.—F. J. WILLIAMS, Yatton Farm, Kingsland.

Kerry Hill.—J. T. BEAVEN, Winsbury, Chirbury, Montgomery.

GOATS.

T. W. PALMER, 10, Lloyds Avenue, London, E.C.3.

PIGS.

Berkshire.—R. B. VINCENT, Manor Farm, Waterson, Dorchester, Dorset.

Large Black.—Captain W. BRUCE, C.B.E., Haseley Manor, Wallingford.

Large White.—A. W. WHITE, "Hillegom," Spalding.

Middle White.—S. H. HART, Hammonds, Checkendon, Reading.

Tamworth.—R. P. HAYNES, Delves Green Farm, Wednesbury.

Gloucester Old Spots.—W. C. MITCHELL, Henham Estate Office, Wangford, Lowestoft.

Wessex Saddleback.—H. C. KNAPMAN, Estate Office, Norman Court, Salisbury.

Essex.—W. HASLER, The Croft, Dunmow, Essex.

Long White Lop-eared.—A. A. PARTRIDGE, Mordref, Plympton, Devon.

Bacon.—J. ANDREASEN, St. Edmundsbury Co-op. Bacon Factory, Ltd., Elmswell, near Bury St. Edmunds.

POULTRY.

H. S. ANTHONY, Home Farm, Euxton, Chorley.

C. WATSON, Oxhey, Watford.

PRODUCE.

Cider.—**R. A. WARREN**, 93, Park Avenue, Worcester.

Cheese.—**A. TODD**, British Dairy Institute, Reading.

Cream Cheese, Butter and Cream.—**Miss TAYLOR**, Somerset Farm Institute, Cannington Court, Bridgwater.

COMPETITIONS.

Butter-making.—**Miss E. BRAY**, C.C. Offices, 1, Richmond Road, Exeter.

Milking.—**A. TODD**, British Dairy Institute, Reading.

Shoeing.—**W. HILL**, F.W.C.F., Oddicombe, Windsor Square, Exmouth.

PIGEONS.

P. R. HARROWER, 2, Sandland Street, Holborn, London, W.C.1.

RABBITS.

G. GARDNER, 11, Haverstock Road, London, N.W.5.

FORESTRY.

Professor H. A. PRITCHARD, The Forestry Commission, 1, Whitehall, London, S.W.1.

PRIZE AWARDS, 1926.

* * An animal designated in this list as the "reserve number" is entitled, *conditionally*, to succeed to any Prize that may become vacant in its class by reason of the animal placed above it by the Judges afterwards failing to qualify.

† Animals, where not otherwise stated, may be considered to have been bred by the Exhibitor. •

ABBREVIATIONS EXPLAINED :—S., sire ; d., dam ; s.d., sire of dam ; y., year ; m., month ; w., week ; d., day ; R., Reserve ; V.H.C., Very Highly Commended ; H.C., Highly Commended ; C., Commended.

The Prizes in Classes 34 to 39, 84 to 86, 93 and 94, 153 to 155, the Poultry Classes 69 to 82 and the Special Local Hunter and Shorthorn Prizes were offered through the Herts Agricultural Society, and were open only to Residents in the County Radius, which included the whole of the County of Hertford and that portion of the County of Middlesex within an eleven mile radius of the Post Office at Hatfield.

HORSES.

SHIRE.

(Registered or eligible for registration in the Shire Horse Society's Stud Book).

CLASS 1.—*Shire Mare, in-foal, or with foal at foot.* [3 entries].

I. (£15.)—W. G. BUCHANAN, Manor House Farm, Abergavenny, brown, **Medlar Bella** (89533), foaled 1916, bred by Harry Jackson, Bank House, Hambleton, Poulton-le-Fylde ; s Friar Tuck 4th (31447), d Medlar Fuchsia (78797) ; s d, Blythwood Kingmaker (18534) ; with foal by Monnow Craftsman (39555).

II. (£10.)—H. R. HEDGES, Bushey Grange Farm, Watford, Herts, dark bay, **Elder Bluebell** (114149), foaled 1922, bred by Ernest Gee, Thorney, Peterborough ; s Marboro Nulli Secundus (33231), d Roycroft May Queen (86283), s d Ratcliffe Forest King (23622) ; with foal by Monks Green Michael.

CLASS 2.—*Shire Colt or Filly Foal, produce of Mare in Class 1.* [3 entries.]

I. (£5.)—W. G. BUCHANAN, Manor House Farm, Abergavenny.

II. (£3.)—H. R. HEDGES, Bushey Grange Farm, Watford, Herts, foaled April 12th, 1926.

CLASS 3.—*Shire Filly or Gelding, foaled in 1925.* [4 entries.]

I. (£10.)—JAMES CRAWFORD, Potterells Farm, Hatfield, Herts, bay filly, **Brickendon Omega**, bred by the late Sir E. Pearson, Brickendonbury, Hertford, s Coleshill Forester (124149), d Brickendon Diana (80659), s d Norbury Menestrel (23543).

II. (£5.)—**JAMES CRAWFORD**, bay filly, **Brickendon Offy**, bred by the late Sir Edward Pearson, Brickendonbury, Hertford; s Coleshill Forester (24149), d Brickendon Karma (111139), s d Claydon Majestic.

III. (£3.)—**JAMES SLADE**, Oxhey Hall Farm, Watford. bay filly, **Darling**, bred by J. Kettleboro, Clayworth Grange, Retford; s Warrior Carlton (31943), d Bessy (101356), s d The Grey King (33581).

CLASS 4.—Shire Filly or Gelding, foaled in 1924. [3 entries.]

I. (£10) and Reserve for Medal A*—**W. G. BUCHANAN**, Manor House Farm, Abergavenny, bay filly, **Gobion Lady Joan**; s Gobion Premier (38820), d Gobion Lady (108200), s d Wood Reeve (24772).

II. (£5.)—**R. S. WEIR**, Amwellbury Farm, near Ware, black filly, **Amwell Eva** (117745); s Champion Goalkeeper (30296), d Brickendon Fairmaid, s d Coleshill Forester (24149).

III. (£3.)—**H. R. HEDGES**, Bushey Grange Farm, Watford, black (4 white feet) filly, **Bushey Grange Perfection** (117948), bred by Percy Toone, Wolvey Grange, Hinckley, Warwick; s Lincoln Friar Tuck (36703), d Inham Bonny (98675), s d Raglan 3rd (28696).

CLASS 5.—Shire Filly or Gelding, foaled in 1923. [2 entries.]

I. (£10) and Medal A*—**Major J. A. MORRISON**, D.S.O., Basildon Park, Goring, near Reading, bay filly, **Dalbury Diamond** (116314), bred by John Massey, Rook Hills, Dalbury Etwall, Derby; s Pendley Record (35951), d Little Mary (85548), s d Harold of the Forest (29459).

II. (£5.)—**MANN, CROSSMAN AND PAULIN, LTD.**, Albion Brewery, Whitechapel Road, London, E.1., bay gelding, **Lancaster**, bred by Christopher Fox, Bank End, Glasson Dock, Lancaster; s Sundridge Nulli Secundus (36952), d Active Queen (96958), s d Activity 5th (32969).

CLASS 6.—Shire Gelding [by a registered sire], foaled in or before 1922. [2 entries.]

I. (£10) and Medal B†—**MANN, CROSSMAN AND PAULIN, LTD.**, Albion Brewery, Whitechapel Road, London, E.1., grey, **Bedford**, foaled 1920, bred by T. Smithson, Southrey, Lincoln; s March King (34955), d Southrey Queen Elizabeth (83047), s d Heale Adonis (25273).

II. £5) and Reserve for Medal B†—**MANN, CROSSMAN AND PAULIN, LTD.**, bay, **Albion Majestic**, foaled 1922, bred by D. W. Lewis, Nag's Hall, Godstone, Surrey; s Maryshall Majestic (36747), d Chessie, s d Albert of Tandridge (25859).

Medals given by the Shire Horse Society under Condition 47.

*(A) A Gold Medal, or the sum of £5, for the best Mare or Filly in the Shire Horse Classes, the property of a Member of the Bath and West Society elected not less than six months previous to April 7th, 1926, and to the Breeder of the winner under the Condition stated, a prize of £2.

†(B) A Bronze Medal for the best Exhibit in Class 6, the property of a Member of the Shire Horse Society.

CLASS 7.—Shire Stallion, foaled in 1924. [1 entry.]

I. (£10.)—H. W. BISHOP and J. W. MEASURES, Pendley Stock Farm, Tring, bay, **Cippenham Candidate** (39676), bred by E. W. Headington, Cippenham Court, Slough; s Cippenham Draughtsman (38109), d Pendley Fashion (99581), s d Norbury Menestrel (25343).

CLASS 8.—Shire Colt, foaled in 1925.—First prize, £10—second, £5—third, £3. [1 entry.]

[No EXHIBIT.]

PERCHERONS.

(£20 towards the Prizes in Classes 9 to 12 were given by the British Percheron Horse Society).

CLASS 9.—Percheron Mare, in foal, or with foal at foot. [2 entries.]

I. (£10.)—Major JOHN SEWELL COURTAULD, M.C., M.P., Burton Park, Petworth, Sussex, grey, **Guasquette**, foaled 1916, bred by M. Chapelle, Plessis, Montague; s Lagor (F.100512), d Rustique (F.50571), s d Duchesnay (F.37117) with foal by Prescient.

II. £5.)—Major JOHN SEWELL COURTAULD, M.C., M.P., dark grey, **Guon-jointe**, foaled 1916, bred by M. Revert, St. Mards, St. Ouen de Sechersune; s Myrmidon (F.109533), d Naleya (F.114551), s d Jonas (F.84244); with foal by Prescient.

CLASS 10.—Percheron Colt or Filly Foal, produce of Mare in Class 9. [2 entries.]

I. (£5.)—Major J. S. COURTAULD, M.C., M.P., Burton Park, Petworth; foaled March 4th, 1926.

II. (£3.)—Major J. S. COURTAULD, M.C., M.P.; foaled March 29th, 1926.

CLASS 11.—Percheron Filly, foaled in 1924. [2 entries.]

I. (£10.)—Sir HENRY H. A. HOARE, Bart., Stourhead, Zeals, Wilts, grey, **Motcombe Lavelle**, bred by Lord Stalbridge, Stalbridge Park, Stalbridge; s Lagor (B.1), d Guarvalle (B.118), s d Loriet (F.99645).

CLASS 12.—Percheron Filly, foaled in 1923.—First prize, £10—second, £5—third, £3. [1 entry.]

[No EXHIBIT.]

SUFFOLK.

(£20 towards the Prizes in Classes 13 to 16 were given by the Suffolk Horse Society).

CLASS 13.—*Suffolk Mare, in foal, or with foal at foot.* [4 entries.]

I. (£10.)—THOS. H. SOCHON, Tanfield Tye, West Hanningfield, Chelmsford, chestnut, **Morston Gold Signet** (12073), foaled 1922, bred by A. T. Pratt, Morston Hall, Trimley; s Morston Gold Guard (2434), d Leda's Queen (7772), s d Bawdsey Harvester (3076); with foal by Shotley Counterfeit.

II. (£5.)—HOLLESLEY BAY LABOUR COLONY, Hollesley, Suffolk, chestnut, **Colony Maid** (7927), foaled 1912; s Bawdsey Reaper (3635), d Serenade (5114), s d Bentley Warrior (2898); with foal by Sudbourne Premier (4963).

III. (£3.)—Lieut.-Colonel W. E. HARRISON, Wychnor Park, Burton-on-Trent, chestnut, **Alderton Constance** (11151), foaled 1921, bred by J. Forrest, Alderton, Woodbridge; s Morston Connaught (4590), d Ruby (9500), s d Bawdsey Baronet (4179); with foal.

CLASS 14.—*Suffolk Colt or Filly Foal, produce of Mare in Class 13.* [3 entries.]

I. (£5.)—HOLLESLEY BAY LABOUR COLONY, Hollesley, Suffolk: foaled February 7th, 1926.

II. (£3.)—Lieut.-Colonel W. E. HARRISON, Wychnor Park, Burton-on-Trent.

R.—T. H. SOCHON, Tanfield Tye, West Hanningfield, Chelmsford; foaled April 4th, 1926.

CLASS 15.—*Suffolk Gelding [by a registered sire], foaled in or before 1922.* [5 entries.]

I. (£10.)—Mrs. EVELYN RICH, Wretham Hall, Thetford, Norfolk, chestnut, **Colonel**, foaled 1920, bred by F. C. Burton, Grove Farm, Kessingland; s Matchless (4628), d Dainty (8469).

II. (£5.)—THOS. H. SOCHON, Tanfield Tye, West Hanningfield, chestnut, **Boxer**, bred by —. Allen, Harpstead, Suffolk; s Checkmate (4683).

III. (£3.)—HENRY AUSTIN BROWN, Busley Hall Farm, Watford, chestnut, **Punch**, foaled 1920, bred by the late G. A. Cobb, Woodside, Garston, Watford.

R.—HENRY AUSTIN BROWN, chestnut, **Captain**, foaled 1920, bred by the late G. A. Cobb, Woodside, Garston, Watford.

C.—Lieut.-Colonel W. E. HARRISON, Wychnor Park, Burton-on-Trent, chestnut, **Pasha**, foaled 1922; s Morston Kerry (4751), d Palfrey (7959), s d Sudbourne Abbot (3821).

CLASS 16.—*Suffolk Colt, Filly or Gelding, foaled in 1923 or 1924.* [6 entries.]

I. (£10.)—THOS. H. SOCHON, Tanfield Tye, West Hanningfield, Chelmsford, red gelding, **Morston Beau Brocade** (5555), foaled 1923, bred by the Exors. of the late Lord Manton, Sudbourne Hall, Orford; s Sudbourne Beau Brocade (4235), d Maggy (8690), s d Sudbourne Arab (3309).

II. (£5.)—Lieut.-Colonel W. E. HARRISON, Wychnor Park, Burton-on-Trent, chestnut gelding, **Sir Harry of Morston** (5676), foaled 1924 ; s **Farnham Beatty** (4942), d **Markstead Gem 2nd** (10521), s d **Sudbourne Beauchief** (4215).

III. (£3.)—Captain C. E. FITZROY, The Lodge Farm, Coney Weston, Bury St. Edmunds, chestnut filly, **Thorpe Grace** (13157), foaled 1924 ; s **Tattingstone Beau Esprit** (4927), d **Whitehall Countess** (9942), s d **Morston Gold Guard** (4234).

R.—Lieut.-Colonel W. E. HARRISON, chestnut filly, **Wychnor Primrose** (13102), foaled 1924 ; s **Bawdsey Wassail** (5132), d **Palfrey** (7059), s d **Sudbourne Abbot** (3821).

C.—C. MORLAND AGNEW, Durrants, Croxley Green, Herts, chestnut filly, **Durrants Girl**, foaled 1924 ; s **Sudbourne Premier** (4963), d **Kenton Ghost** (9561), s d **Gripping Conqueror** (4000).

C.—Lady YULE, Hanstead House, Bricket Wood, St. Albans, chestnut filly, foaled, 1924 ; s **Morston Gold Guard** (4234), d **Merry Lass** (8569), s d **Rendlesham Steward** (4137).

HUNTERS.

CLASS 17.—*Hunter Mare, in foal, or with foal at foot.* [3 entries.]

I. (£15) and Medal E*—WARRE AND UNWIN, Longdon Hall, Tewkesbury, bay, **Cavallini**, aged (1915), s **Long Tom** (T.B.), d **Tress** (T.B.), s d **Trenton** ; with foal by **Kildare II**.

II. (£10) and Reserve for Medal E*—WALTER J. FRYER, C.B.E., Holme Park, Sonning, Berks, bay, foaled in 1912, bred by Colonel Meysey Thompson, York ; s **Birk Gell**, d **Britannia** ; with foal by **Tantamount**.

SPECIAL COUNTY PRIZE.

GIVEN BY THE HERTS AGRICULTURAL SOCIETY, AND OPEN ONLY TO RESIDENTS IN THE COUNTY RADIUS.

Best Local Exhibit in Class 17—£5.

[NOT AWARDED.]

CLASS 18.—*Hunter Colt or Filly Foal, produce of Mare in Class 17.* [3 entries.]

I. (£5.)—WARRE AND UNWIN, Longdon Hall, Tewkesbury.

II. (£3.)—W. J. FRYER, C.B.E., Holme Park, Sonning, Berks ; foaled March 22nd, 1926.

MEDAL E.

* Given by the Hunters' Improvement and National Light Horse Breeding Society, under Conditions 48 and 49. A Gold Medal, or £5 and a Bronze Medal, for the best Hunter Brood Mare in Class 17, registered with a number in the Hunter Stud Book, at the time of entry or within a month of the award, not having previously won the above-named Society's Gold Medal as a Brood Mare in 1926, and which must have her foal at foot, or produce a living foal in 1926 to a Thoroughbred Horse or Registered Hunter Sire.

(Only Prize winners in the Class were eligible for the Medal).

CLASS 19.—*Hunter Filly, Colt or Gelding, foaled in 1925.*
[2 entries.]

I. (£10.)—DINAM ESTATES CO. (Mr. David Davies, M.P.), Llandinam Hall Farm, Llandinam, chestnut filly, **Mimosa**; s Bachelor's Image, d Lottery (6350).

II. (£5.)—RICHARD DAVIS, Cottingham Farm, Bovington, Herts, brown colt, **Cottingham**; s Ignition, d Bendy Tree, s d Pensimon.

CLASS 20.—*Hunter Filly, Colt or Gelding, foaled in 1924.*
[5 entries.]

I. (£10.)—WALTER J. FRYER, C.B.E., Holme Park, Sonning, Berks, bay filly, **Gay-Larch**; s Gay Lally, d Larch, s d Birk Gell.

II. (£5.)—The DINAM ESTATES CO. (Mr. David Davies, M.P.), Llandinam Hall Farm, Llandinam, Co. Montgomery, bay filly, **Lydia II** (6580 H.S.B.); s Bachelor's Image, d Judith.

III. (£3.)—Miss WELLESLEY, Ford House, Churchinford, Chard, brown gelding, **Eiffel**, bred by H. Worrall, Bagborough, Som.; s The Tower, d Bright Eyes, s d Red Prince II.

R.—Mrs. M. A. BROMWICH, Kenfield Hall, near Canterbury, grey gelding, **Kenfield Gentleman**; s Guergour, d Mystery, s d Meleager.

CLASS 21.—*Hunter Filly or Gelding, foaled in 1923.* [3 entries.]

I. (£10.)—LADY YULE, Hamstead House, Bricket Wood, St. Albans, chestnut grey roan gelding, **White Bud**; s Darigal, d Merrymaid IV. (6552).

II. (£5.)—ARTHUR S. BOWLBY, Gilston Park, Harlow, chestnut filly, **Lady Rambler** (6336); s Scarlet Rambler, d Lady Grace III. (5759), s d Darigal.

III. (£3.)—Lady YULE, chestnut gelding, **Proletariat**; s Political, d Tarentella, s d Turgot.

CLASS 22.—*Hunter Mare or Gelding, foaled before 1923, that had not won a prize of £10 or over under saddle at any Show held previous to April 1st, 1926.* [19 entries.]

I. (£10.)—Major R. M. STEWART RICHARDSON, Idoover House, Dauntsey, Chippenham, Wilts, brown gelding, **Borderer**, foaled 1921, bred by I. Payne, Tulske, Roscommon; s Prepared, d by Lochinvar.

II. (£5) and Special County Prize (£5)* and Reserve for Medal (F)†—Major V. D. S. WILLIAMS, Queen's Norton Court, Towcester, Northants, chestnut mare, **Whitwell**, foaled 1919; s Othello, s d Red Prince.

III. (£3.)—Lieut.-Colonel G. C. BIRDWOOD, C.B.E., Redhill, Surrey, brown gelding, **Sand Boy**, foaled 1922, bred by J. Codd, Bally-co-gley, Co. Wexford; s Sandstone, d by Kangaroo.

R.—Mrs. PHILIP HUNLOKE, Cowbridge, Malmesbury, chestnut gelding, **Chance**, foaled in 1918.

SPECIAL COUNTY PRIZE—D.

* Given by the Herts Agricultural Society, and open to residents in the County Radius.

V.H.C.—Sir HENRY HOARE, Bart., Stourhead, Zeals, S.O., Wilts, bay gelding **Goblin**, foaled 1922, bred by Mr. Phelan, The Parade, Kilkenny, Ireland; s Goblet, d by Gun Cotton.

H.C. and Reserve for County Prize (D).—ARTHUR S. BOWLBY, Gilston Park, Harlow, chestnut mare, **Lady Grace III.** (5759), foaled 1919; s Darigal, d Grace Darling III.

CLASS 23.—*Hunter Mare or Gelding, foaled in 1922.* [4 entries.]

I. (£10.)—Lieut.-Colonel G. C. BIRDWOOD, C.B.E., Redhill, Surrey, brown gelding, **Sand Boy**, foaled 1922, bred by J. Codd, Bally-co-gley, Co. Wexford; s Sandstone, d by Kangaroo.

II. (£5.)—Sir H. HOARE, Bart., Stourhead, Zeals, S.O., Wilts, bay gelding, **Goblin**, foaled, 1922, bred by Mr. Phelan, The Parade, Kilkenny, Ireland; s Goblet, d by Gun Cotton.

III. (£3.)—THOMAS A. MOTION, Cranford, Kettering, bay gelding, **Yeoman**, foaled 1922; s Vigorous II.

R.—Mrs. M. A. BROMWICH, Kenfield Hall, near Canterbury, grey gelding, **Bright Boy of Kenfield**, foaled 1922; s Guergous, d Marigold, s d Grebe.

CLASS 24.—*Hunter Mare or Gelding, foaled before 1923, to carry not more than 12 stone 7 lbs.* [9 entries.]

I. (£20.)—Major V. D. S. WILLIAMS, Queen's Norton Court, Towcester, Northants, chestnut mare, **Whitwell**, foaled 1919; s Othello, s d Red Prince.

II. (£10.)—Sir ARTHUR CORY WRIGHT, Ayot Place, Welwyn, Herts, bay gelding, **Reynard**, foaled 1919; s Reynard.

III. (£3.)—Mr. P. HUNLOKE, Cowbridge, Malmesbury, chestnut gelding, **Chance**, foaled in 1918.

R.—Lieut.-Colonel G. C. BIRDWOOD, C.B.E., Redhill, Surrey, brown gelding, **Honor Bright**, foaled 1921, bred by H. L. Storey, Malmesbury, Wilts; s Moonlighter, d Falima (H.S.B. 5342).

V.H.C.—Mrs. PHILIP FLEMING, Grendon Hall, Aylesbury, grey mare, **Juanna**, foaled 1921, bred in Ireland; s Sourdlestown, s d Mithra.

CLASS 25.—*Hunter Mare or Gelding, foaled before 1923, to carry over 12 stone 7 lbs., and under 14 stone.* [11 entries.]

I. (£20.)—Sir CHARLES MARKHAM, Longford Hall, Derby, bay gelding, **Artist**, foaled 1920.

II. (£10.)—CONSTANCE, DUCHESS OF WESTMINSTER, Hazelgrove, Sparkford, Somerset, chestnut gelding.

III. (£3.)—Lieut.-Colonel G. C. BIRDWOOD, C.B.E., Redhill, Surrey, brown gelding, **Sand Boy**, foaled 1922, bred by J. Codd, Bally-co-gley, Co. Wexford; s. Sandstone, d by Kangaroo.

SPECIAL COUNTY PRIZE—D.

* Given by the Herts Agricultural Society, and open to Residents in the County Radius.

R.—ARTHUR S. BOWLBY, Gilston Park, Harlow, chestnut gelding, **Blue Boy**, foaled 1921 ; s Darigal, d Half Blue, s d Fighting Priest.

V.H.C.—GEORGE MACDONALD BROWN, Okeford, Tring, chestnut gelding, **Harkaway III.**, foaled 1920 ; s Renown.

H.C.—LADY M. LIDDELL GRAINGER, Ayton Castle, Ayton, Berwickshire, brown gelding, **Melton**, foaled 1916.

CLASS 26.—*Hunter Mare or Gelding, foaled before 1923, to carry 14 stone or over.*—[8 entries.]

I. (£20) and Medal F†—DUCHESS OF MONTROSE, Buchanan Castle, Drymen, Glasgow, bay gelding, **Shrimplet**, foaled 1920, bred by C. E. Ireland, Staunton, Gloucester ; s Regent.

II. (£10.)—Major R. M. STEWART RICHARDSON, Idoover House, Dauntsey, Chippenham, Wilts, brown gelding, **Borderer**, foaled 1921, bred by I. Payne, Tusk, Roscommon ; s Prepared, d by Lochinvar.

III. (£3.)—CONSTANCE, DUCHESS OF WESTMINSTER, Hazelgrove, Sparkford, Somerset, chestnut gelding, **The Boy**, foaled 1920.

R.—Major V. D. S. WILLIAMS, Queen's Norton Court, Towcester, Northants, bay gelding, **The Judge**, foaled 1921 ; s Macanna, s d Warminster.

H.C.—A. S. BOWLBY, Gilston Park, Harlow, chestnut mare, **Lady Grace III.** (5759), foaled 1919 ; s Darigal, d Grace Darling III.

ARABS AND PONIES.

ARABS.

Entries in Classes 27 to 29 must have been registered or accepted for registration in the Arab Horse Stud Book.

(£22 10s. towards the Prizes in these Classes were given by the Arab Horse Society).

CLASS 27.—*Mare, in-foal, or with foal at foot.*—[2 entries.]

I. (£10.)—Brig.-General. FREDERICK F. LANCE, Wentfield, Wrotham Kent, bay, **Mejamleh**, foaled 1912 ; with foal by Crosbie.

II. (£5.)—C. W. HOUGH, Hydes Abridge, Essex, bay, **Ranya**, foaled 1916, bred by Crabbet Park Stud, Three Bridges, Sussex ; s Nasik, d Riyala s d Astraed ; with foal by Shahzada.

CLASS 28.—*Arab Stallion, any age.* [5 entries.]

I. (£10) and Medal H†—Captain R. W. BRIERLEY, The Hall, West Drayton,* white, **Fedaan**, foaled in 1913, bred by the Fedaan Tribe of Snezeh ; s Rashad, d Nejmeh, s d Ibn Sheeh'i.

MEDAL F.

† Given by the Hunter Improvement and National Light Horse Breeding Society, a Silver Medal, or £1 (at the option of the winner), for the best Hunter Mare or Gelding of any age, exhibited in Classes 22 to 26 by a member of the Hunters' Improvement and National Light Horse Breeding Society, whose application for membership must have been lodged within a month of the award.

xii *Prizes awarded to Arabs, Ponies, Polo and Riding Ponies.*

II. (£5).—Brig.-General FREDERICK F. LANCE, Wentfield, Wrotham, Kent, bay, **Ajlun**, foaled in 1923; s Rasim, d Mejamieh.

III. (£3).—Miss LUCY KEMP-WELCH, Bushey, near Watford, bay, **Mustapha Hamel**, foaled in 1906, bred by Lady Anne Blunt, Crabbett Park, Three Bridges; s Feysul, d Mabsuta, s d Mesaond.

R.—C. W. HOUGH, Hydes, Abridge, Essex, bay, **Nuri Sherif**, foaled in 1920, bred by the late M. S. G. Hough, Springhouse Park, Theydon Bois, Essex; s Nureddin, d Sheeba, s d Ben Azrek.

CLASS 29.—*Arab Colt, Filly or Gelding, foaled in 1923, 1924 or 1925.* [6 entries.]

I. (£10).—Brig.-General F. F. LANCE, Wentfield Wrotham, Kent, bay, **Ajlun**, foaled in 1923; s Rasim, d Mejamieh.

II. (£5) and Medal G*.—Brig.-General F. F. LANCE, bay mare, **Awalani**, foaled 1923; s Ch. Rasim, d Libnani.

III. (£3).—R. E. L. VAUGHAN WILLIAMS, K.C., High Ashes Farm, Holm-bury St. Mary, Dorking, Surrey, bay filly, **Yaguta**, foaled 1923; s Rasim, d Marcasa, s d Mareb.

R.—C. W. HOUGH, Hydes, Abridge, Essex, chestnut filly, **Nezza**, foaled 1924; s Shohzada, d Nejma (impt.).

POLO AND RIDING PONIES.

Animals entered in Classes 30 and 31 must have been entered in the National Pony Stud Book or registered in the approved Mare Register.

CLASS 30.—*Polo and Riding Pony Mare, not exceeding 15 hands, in foal or with foal at foot.* [4 entries.]

I. (£10) and Silver Medal I†.—WARRE AND UNWIN, Longdon Hall, Tewkesbury, chestnut, **Titanla**, aged; s Athos; with foal by Kildare II.

II. (£5) and Reserve for Medal I†.—Miss B. G. CORY-WRIGHT, Ayot Place, Welwyn, Hants, bay, **Spice**, foaled 1916, with foal by St. Lucion.

III. (£3).—Miss B. G. CORY-WRIGHT, grey, **Bryano II**, aged, with foal by St. Lucion.

CLASS 31.—*Polo and Riding Pony Filly or Gelding, foaled in 1922, 1923 or 1924.* [3 entries.]

I. (£10).—Mrs. M. A. BROMWICH, Kenfield Hall, Canterbury, bay filly, **Massouds Delight**, foaled 1922; s Guergour, d Aerowings (3666), s d White Wings (464).

II. (£5).—Miss B. G. CORY-WRIGHT, Ayot Place, Welwyn, Herts, chestnut gelding, **Cherry Sauce**, foaled in 1924; s Cherry Tint, d Beano II.

III. (£3).—Miss B. G. CORY-WRIGHT, chestnut mare, **Falloch Asthore**, foaled 1922, bred by Mrs. M. Hughes; s Count Anthony, d Gay Falloch, s d Gay Man.

Silver Medals given by the Arab Horse Society.

*G Best Mare or Filly in Class 27 or 29.

†H Best Stallion or Colt in Class 28 or 29.

†Given by the National Pony Society, a Silver Medal (I) for the Best Exhibit in Class 30.

SHETLAND PONIES.

CLASS 32.—*Shetland Mare, not exceeding 10.2 hands, in foal, or with foal at foot.* [6 entries.]

I. (£10) Champion K†, and Reserve for Champion J*—Mrs. **ETTA DUFFUS**, Penniwells, Elstree, Herts, black, **Kitbliss of Penniwells** (Vol. XXIX., page 66), foaled 1920 ; s Blitz (848), d Kiteat (3096), s d Minotaur (607) ; with foal by Huzzoor of Penniwells (864).

II. (£5) and Reserve for Champion J†—Lady **ESTELLA HOPE**, South Park, Bodiam, Sussex, piebald, **Flammula** (Vol. 29, S.P.S.B.), foaled 1920, bred by the Ladies E. and D. Hope, South Park, Bodiam, Sussex ; s Electric Light (650), d Fairy Mary (2942), s d Thoreau (392) ; with foal by Vainglory (842).

III. (£3.)—Lady **ESTELLA HOPE**, black, **Bignonia** (3701), foaled 1914, bred by the Ladies E. and D. Hope, South Park, Bodiam, Sussex ; s Bumble Bee (479), d Ballerina (2831), s d Thoreau (392) ; with foal by Bumble Bee (479).

R. Mrs. **HOBART**, Standen, Newport, I.W., brown, **Rosehough Ina** (3670) ; s Merry Hero (244), d Lady Ina (165 4), s d Harold (117) ; in foal.

CLASS 33.—*Shetland Stallion, not exceeding 10.2 hands, foaled before 1923.* [8 entries.]

I. (£10) and Champion J*—Mrs. **ETTA DUFFUS**, Penniwells, Elstree, Herts, black, **Dibblitz of Penniwells** (1087), foaled 1920 ; s Blitz (848), d Diddy (2193), s d Diamond (257).

II. (£5.) Mrs. **ETTA DUFFUS**, black, **Blackthorn of Penniwells** (Vol. XXXIII) foaled 1922, bred by Wm. Roy, St. Ives, Crief ; s Behemoth of Auchlochan (527), d Barberry of Mondynes, s d Peveril (722).

III. (£3.)—Mrs. **HOBART**, Standen, Newport, I.W., skewbald, **Nomination**, foaled 1921 ; s New Moon (1011), d Norlanda (3887), s d Douglas of Hurst Barnes.

R.—Mrs. **HOBART**, dark brown or black, **Sky Pilot**, foaled 1920 ; s Charles of Langley (403), d Skylight (405), s d Dan.

V.H.C.—Mrs. **BETTY COX**, Marshwood Manor, near Bridport, Dorset, grey, **Bohemian of Earlsall** (1079), foaled 1921, bred by R. W. R. Mackenzie, Earlsall, Leuchars, Fife ; s Gluss Norseman (759), d Bohea of Earlsall (3923), s d Helmet of Earlsall (408).

H.C.—Lady **ESTELLA HOPE**, South Park, Bodiam, Sussex, dark brown, **Camp Coffee** (Vol. 30, S.P.S.B.), foaled 1922, bred by the Ladies E. and D. Hope, South Park, Bodiam, Sussex ; s Vainglory (842), d Caftière (2941), s d Thoreau (392).

* (J) Given by R. W. Mackenzie, Esq., of Earlsall, Leuchars, Fife, a Silver Medal for the best exhibit in the Shetland Classes.

†(K) Given by J. C. Duffus, Esq., of Penniwells, Elstree, Herts, a Silver Cup for the best Pony of the opposite sex to the Champion exhibited in the Shetland Classes and entered or eligible for the Shetland Pony Stud Book.

ANY AGRICULTURAL BREED.

The Prizes in Classes 34 to 39 were given by the Herts. Agricultural Society, and were open only to residents in the County Radius.

CLASS 34.—*Any Agricultural Gelding, any age.* [2 entries.]

I. (£5.)—J. CRAWFORD, Potterells, Hatfield, brown gelding, Jolly.

CLASS 35.—*Any Agricultural Filly, foaled in 1923 or 1924.*
[4 entries.]

I. (£5.)—R. S. WEIR, Amwellbury Farm, Ware, black, Amwell Eva.

II. (£3.)—R. S. WEIR, Amwell Pearl.

III. (30/-)—E. MILDBEN, Buckland, Buntingford, Herts, bay Shire, Buckland Princess.

R.—H. R. HEDGES, Watford, black, Bushey Grange Perfection.

CLASS 36.—*Any Agricultural Filly, foaled in 1925.* [5 entries.]

I. (£5.)—J. CRAWFORD, Hatfield, bay, Brickendon Omega.

II. (£3.)—J. CRAWFORD, bay, Brickendon Offy.

III. (30/-)—H. R. HEDGES, Watford, bay, Bushey Grange Romance.

R.—J. SLADE, Watford, bay, Darling.

H.C.—Brig.-General Viscount HAMPDEN, K.C.B., C.M.G., The Hoo, Kimpton, Herts, bay Shire, Kimpton Lady.

CLASS 37.—*Any Agricultural Mare with foal at foot or due to foal this season.* [4 entries.]

I. (£5.)—R. S. WEIR, Ware, Amwell Pearl.

II. (£3.)—J. CRAWFORD, Hatfield.

III. (30/-)—H. R. HEDGES, Watford, Elder Bluebell.

CLASS 38.—*Any Agricultural Foal.* [3 entries.]

I. (£5.)—H. R. HEDGES, Watford.

II. (£3.)—J. CRAWFORD, Hatfield.

CLASS 39.—*Any Agricultural Pair of Mares or Geldings, or Mare and Gelding.* [3 entries.]

I. (£5.)—R. S. WEIR, Amwellbury, near Ware.

II. (£3.)—J. CRAWFORD, Hatfield.

III. (30/-)—H. R. HEDGES, Watford.

SADDLE.

CLASS 40.—*Pony, not over 13 hands, suitable for and ridden by a child not over 12 years of age last birthday, on the first day of the Show.*

[*A Whip was presented to the best Boy and best Girl Riders in this Class.*]

I. (£5) and Whip.—Mrs. PHILIP HUNLOKE, Cowbridge, Malmesbury, Wilts, grey mare, **Wingerworth Seabird**.

II. (£4.)—Miss OLIVE RICKS, Hatch Farm, Addlestone, Surrey, bay, **Cosy**.

III. (£2.)—W. J. SMITH, LTD., 21, Little Cadogan Place, S.W.1, chestnut gelding, **Cadogan Billy**.

IV. (£1) and Whip.—Miss DIANA HOLLAND-HIBBERT, The Kennels, Semington, Trowbridge, brown mare, **Evens**.

R.—D. R. BLAIR, Furnivalls, Amersham, Bucks, bay gelding, **Bay Boy**.

V.H.C.—Miss F. MORTON, The Hut, Watford, bay mare, **Coquette**.

CLASS 41.—[*Novice Class.*]—*Hack or Gelding, any height, that had not won a prize of over £5 in value as a Hack at any Show held previous to April 1, 1926, ridden on the second day of the Show.*
[21 entries.]

I. (£10.)—Major R. M. STEWART RICHARDSON, Idover House, Dauntsey, **Belasco**.

II. (£5.)—Mrs. P. HUNLOKE, Cowbridge, Malmesbury, chestnut mare, **Blue Stocking**.

III. (£2.)—Miss B. KEMP WELCH, 147, Victoria Street, London, S.W., grey mare, **Remembrance**.

R.—Miss WELLESLEY, Ford House, Churchinford, Chard, chestnut gelding, **San-Toy**.

H.C.—Miss M. M. PARKES, Lapal House, Quinton, Birmingham, chestnut gelding, **Thorpe Lad**.

C.—R. W. JAY, Monk Frith, Old Southgate, N., chestnut gelding, **Golden Sun**.

C.—Miss P. STEWART, Prebendal, Aylesbury, brown mare, **Gabrielle**.

CLASS 42.—*Hack Mare or Gelding, any height, ridden by a lady on the third day of the Show.* [19 entries.]

I. (£10.)—The Lady PENRHYN, Wicken Park, Stony Stratford, Bucks, bay mare, **Cuckoo**.

II. (£5.)—Major STEWART RICHARDSON, Dauntsey, **Belasco**.

III. (£2.)—Mrs. P. HUNLOKE, Malmesbury, chestnut mare, **Blue Stocking**.

R.—Miss B. KEMP WELCH, 147, Victoria Street, grey mare, **Remembrance**.

H.C.—Lieut.-Colonel G. C. BIRDWOOD, C.B.E., Redhill, brown gelding, **Honor Bright.**

C.—Miss M. M. PARKER, Quinton, Birmingham, chestnut gelding, **Thorpe Lad.**

C.—Lady MURIEL LIDDELL-GRAINGER, Ayton Castle, Ayton, Berwickshire, bay mare, **Kitten-on-the-Keys.**

CLASS 43.—*Hack Mare or Gelding, 15 hands and over, ridden on the third day of the Show.* [19 entries.]

I. (£10.)—The Lady PENRHYN, Stony Stratford, bay mare, **Cuckoo.**

II. (£5.)—Major STEWART RICHARDSON, Dauntsey, **Belasco.**

III. (£2.)—Lieut.-Colonel G. C. BIRDWOOD, C.B.E., Redhill, brown gelding, **Honor Bright.**

R.—Lady M. LIDDELL GRAINGER, Ayton, bay mare, **Kitty-on-the-Keys.**

H.C.—Mrs. V. D. S. WILLIAMS, Towcester, chestnut mare, **Nell.**

C.—W. J. SMITH, LTD., 21, Little Cadogan Place, S.W., chestnut gelding, **Cadogan.**

CLASS 44.—*Hack Mare or Gelding, under 15 hands, ridden on the fourth day of the Show.* [14 entries.]

I. (£10.)—Mrs. P. HUNLOKE, Malmesbury, chestnut mare, **Blue Stocking.**

II. £5.)—Miss B. KEMP WELCH, 147, Victoria Street, grey mare, **Remembrance.**

III. (£2.)—Miss M. M. PARKES, Lapal House, Quinton, Birmingham, chestnut gelding, **The Knight.**

R.—Mrs. PHILIP FLEMING, Grendon Hall, Aylesbury, chestnut mare, **Roseleaf II. (5314).**

H.C.—W. J. SMITH, LTD., 21, Little Cadogan Place, S.W.1, chestnut gelding, **Cadogan Valentine.**

C.—Captain PRICE JONES, Wolverton, chestnut, **The Golden Gate.**

CLASS 45.—*Polo Pony, not over 15 hands, 4 years old and over, ridden on the fourth day of the Show.* [6 entries.]

I. (£10) and Silver Medal*—Miss M. M. PARKES, Quinton, Birmingham, chestnut gelding, **The Knight.**

II. (£5) and Reserve for Silver Medal* Captain PRICE JONES, Haversham Manor, Wolverton, Bucks, chestnut mare, **The Golden Gate.**

III. (£2.)—Mrs. P. FLEMING, Aylesbury, chestnut, **Roseleaf II.**

R.—Mrs. M. A. BROMWICH, Canterbury, bay filly, **Massonds Delight.**

*Given by the National Pony Society, Silver Medal for the best Exhibit in Class 45 entered or eligible for entry in the National Pony Stud Book or registered in the approved Mare Register.

*Prizes awarded to Saddle, Mounted Police and
Harness Horses.* xvii

CLASS 46.—*Pony, not over 14 hands, suitable for and ridden by a child not over 14 years of age last birthday, on the fifth day of the Show.* [18 entries.]

[*A Whip was presented to the best Boy and best Girl Riders in this Class.*]

I. (£5) and Whip.—Hon. Mrs. DRURY LOWE, Windsor Forest, bay mare, **Jenny**.

II. (£4.)—A. E. TERRY, Aylesbury, black mare, **Lady-Go-Lightly**.

III. (£2) and Whip.—E. B. FORWOOD, Hanford Wear, near Rugby, **Muscatel**.

IV. (£1.)—Captain HOLLAND-HIBBERT, Semington, Trowbridge, grey mare, **Greylight**.

R.—Mrs. PHILIP HUNLOKE, Malmesbury, Wilts, chestnut mare, **Vixen IV**.

V.H.C.—Captain H. HUTTENBACH, R.H.A., 1, Lennox Gardens, S.W., **Nosegay**.

V.H.C.—Miss M. SEATON, Stoke Mandeville, bay gelding, **Postboy**.

H.C.—J. H. CHAPMAN, Aylesbury.

C.—Sir BRODIE H. HENDERSON, K.C.M.G., C.B., Lower Berkhamsted, chestnut gelding, **Tom Tit**.

C.—D. R. BLAIR, Furnivalls, Amersham, **Glad Eye**.

C.—Miss F. PALEY, Newbury, chestnut gelding, **Robln**.

MOUNTED POLICE.

CLASS 47.—[*Open.*]—*For the best turned out Horse and Man.*

Points were given for horse, including turnout and conditions, 40 per cent. ; turnout of rider, 20 per cent. ; and hands, seat and riding, 40 per cent.

A certificate had to be produced at time of entry signed by the Chief Constable that the horse entered had been in the possession of the police for 3 months previous to the Show.

I. (£10.)—Constable No. 876, S. Division.

II. (£5.)—Constable No. 741, A. Division.

III. (£2.)—Constable No. 144, A. Division.

R.—Constable 455, A. Division.

HARNESS.

CLASS 48.—[*Novice Class.*]—*Mare or Gelding, not over 14 hands, that had not previously won a prize of over £5 in value in single harness at any Show held previous to January 1st, 1926, driven, on the second day of the Show.* [6 entries.]

I. (£10.)—Mrs. A. C. KING, Braishfield Manor, Romsey, brown mare, **Braishfield Queen Bee**.

II. (£5.)—T. J. MATHAIS, 24, Chelwood Street, Paddington, W.. bay brown gelding, **Haf Car.**

III. (£3.)—D. R. BLAIR, Furnivalls, Amersham, Bucks.

IV. (£2.)—S. J. WELLS, Waterside Stud, Frogmore, St. Albans bay mare, **Tanyralit Ruffina.**

R.—W. W. TAYLOR, Carmel House, Loose, near Maidstone, brown.

CLASS 49.—[*Novice Class.*]—*Mare or Gelding, over 14 and not over 15 hands, that had not previously won a prize of over £5 in value in Single Harness at any Show held previous to January 1st, 1926, driven on the second day of the Show.* [6 entries.]

I. (£10.)—B. W. MILLS, 20, West Kensington Gardens, Hammersmith Road, W.14, bay brown gelding, **Edgware Pilot.**

II. (£5.)—W. W. TAYLOR, Carmel House, Loose, near Maidstone, Kent, chestnut.

III. (£2.)—P. FRANKLIN, Round House Farm, Colney Heath, chestnut gelding, **Squlb.**

CLASS 50.—[*Novice Class.*]—*Mare or Gelding, over 15 hands, that had not previously won a prize of over £5 in value in Single Harness at any Show held previous to January 1, 1926, driven, on the second day of the Show.* [6 entries.]

I. (£10.)—B. W. MILLS, 20, West Kensington Gardens, Hammersmith Road, W.14, black gelding, **Edgware Artist.**

II. (£5.)—Mrs. F. E. COIMAN, 1, Upper Grosvenor Street, London, W.1., brown gelding, **Nork Puma** (G271).

III. (£3.)—W. J. SMITH, LTD., Little Cadogan Place, S.W.1, chestnut mare, **Cadogan Graceful.**

IV. (£2.)—F. HARVEY, High Road, Broxbourne, brown mare. **Alpha.**

LOCAL TRADESMEN.

[The Prizes in Classes 51, 52 and 53 were given by the Watford Local Committee].

CLASS 51.—*Light Mare or Gelding, the property of a Tradesman whose place of business was within a 5-mile radius of the Watford Market Place, exhibited in light two-wheeled vehicle, both horse and vehicle bona-fide used for purposes of his trade only for not less than three months prior to May 25, 1926, on the second day of the Show.* [1 entry.]

I. (£5 5s.)—J. B. RYDER AND SONS, 242, St. Albans Road, Watford.

CLASS 52.—*Light Mare or Gelding, the property of a Tradesman whose place of business was within a 5-mile radius of the Watford Market Place, exhibited in light four-wheeled vehicle, both horse and vehicle bona-fide used for the purposes of his trade only for not less than three months prior to May 25, 1926, on the second day of the Show.* [3 entries.]

I. (£5 5s.).—BOROUGH OF WATFORD, Holywell Farm, bay gelding, **Lively**.

II. (£3 3s.).—CLARK BROS., Fearnley Street, Watford, bay mare, **Kitty**.

III. (£1 1s.).—J. SLADE, 67, Market Street, Watford, bay gelding, **Prince**.

CLASS 53.—*Heavy Mare or Gelding, the property of a Tradesman whose place of business was within a 5-mile radius of the Watford Market Place, exhibited in heavy two or four-wheeled vehicle, both horse and vehicle bona-fide used for the purposes of his trade only and for not less than three months prior to May 25, 1926, on the second day of the Show.* [9 entries.]

I. (£5 5s.).—BOROUGH OF WATFORD, Holywell Farm, black gelding, **Blackbird**.

II. (£3 3s.).—MRS. A. POLLARD, 242, High Street, Watford, bay mare, **Rose**.

III. (£1 1s.).—J. POLLARD, 242, High Street, Watford, bay gelding, **Prince**.

R.—J. SLADE, 67, Market Street, Watford, bay gelding, **Tommy**.

V.H.C.—J. POLLARD, 242, High Street, Watford, bay gelding, **Nobby**.

V.H.C.—BENSKINS WATFORD BREWERY, LTD., High Street, Watford, bay gelding, **Geof**.

H.C.—H. GLENISTER, 41, Upper Paddock Road, Oxhey, Watford.

C.—H. GLENISTER.

C.—BENSKINS WATFORD BREWERY, LTD., black gelding, **Thunder**.

CLASS 54.—*Pair of Mares or Geldings, driven in Double Harness on the third day of the Show.* [6 entries.]

I. (£15.).—P. HOFFMAN, Richmond Hill, chestnut geldings, **Oxford Herald** and **Hero**.

Equal II. (£5.).—NIGEL C. COLMAN, 1, Upper Grosvenor Street, London, W.1, brown mare, **Silhouette of Nork**.

Equal II. (£5.).—B. W. MILLS, 20, West Kensington Gardens, W., **Edgware Actor** and **Edgware Duke**.

IV. (£2.).—C. H. SIMMONS, 27, Brewer Street, Maidstone, chestnut geldings, **Burleigh** and **Meh-Met-Bey**.

R.—D. R. BLAIR, Amersham, Bucks.

CLASS 55.—*Tandems, Mares or Geldings, driven on the third day of the Show.* [6 entries.]

I. £15.).—P. HOFFMAN, Richmond Hill, **Oxford Herald** and **Hero**.

II. (£7.)—N. C. COLMAN, 1, Upper Grosvenor Street, London, W., brown mare, **Silhouette of Nork**, and brown gelding, **Lochardel**.

III. (£3.)—B. W. MILLS, 20, West Kensington Gardens, W.

CLASS 56.—*Harness Mare or Gelding, not exceeding 14 hands driven on the fourth day of the Show.* [11 entries.]

I. (£15.)—MRS. A. C. KING, Braishfield Manor, Romsey, brown mare, **Braishfield Queen Bee**.

II. (£7.)—R. BELCHER, West Bromwich, **Buckley Searchlight**.

III. (£3.)—C. H. SIMMONS, 27, Brewer Street, Maidstone, brown mare, **Maldstone Pick-em-up**.

IV. (£2.)—T. J. MATHIAS, 24, Chelwood Street, Paddington, W., bay brown gelding, **Haf Gar**.

R.—W. W. TAYLOR, Carmel House, Loose, near Maidstone, bay mare.

V.H.C.—D. R. BLAIR, Amersham.

V.H.C.—S. J. WELLBELOVED, Waterside Stud, Frogmore, St. Albans, bay mare, **Tanyralit Ruffina**.

H.C.—MRS. B. TILBURY, Brighton, **Gunfire**.

C.—D. R. BLAIR, Amersham.

CLASS 57.—*Mare or Gelding, over 14 and not exceeding 15 hands, driven on the fourth day of the Show.* [3 entries.]

I. (£15.)—P. HOFFMAN, Richmond Hill, **Orford Gallant**.

II. (£7.)—W. W. TAYLOR, Maidstone.

CLASS 58.—*Mare or Gelding, over 15 hands, driven on the fifth day of the Show.* [12 entries.]

I. (£15) and Medal*—B. W. MILLS, 20, West Kensington Gardens, W.14, **Edgware Duke**.

II. (£7) and Reserve for Medal*—MRS. B. TILBURY, Brighton, **Tilbury**.

III. (£3.)—B. W. MILLS.

IV. (£2.)—ROBERT WILLIAM JAY, Old Southgate, N., chestnut gelding, **The Rambler** (G.280).

R.—P. HOFFMAN, Richmond Hill, **Orford Hero**.

V.H.C.—P. HOFFMAN, **Orford Herald**.

V.H.C.—C. H. SIMMONS, **Meh-Met-Bey**.

MEDAL.

* Given by the Hackney Horse Society under Conditions No. 50. A Silver Medal for the best Mare or Gelding exhibited in Single Harness in Classes 48 to 58, judged on the fifth day of the Show.

JUMPING.

CLASS 59.—*Mare or Gelding, over 15 hands, jumping over the course in the best form, on the first day of the Show.* [11 entries.]

I. (£10.)—R. THACKRAY, Fords Farm, Calcot, near Reading, **Blue Bird**.

II. (£5.)—F. ALLISON, Newbiggin, Penrith, Cumberland, chestnut gelding, **The Wizard**.

III. (£3.)—B. W. MILLS, 20, West Kensington Gardens, Hammersmith Road, W.14, bay gelding, **Achchha**.

IV. (£2.)—F. ALLISON, brown gelding, **Nap**.

R.—H. PULLEINE, Bench View, Loyndhurst, black gelding, **Saxophone**.

CLASS 60.—*Mare or Gelding, 15 hands and under, jumping over the course in the best form, on the first day of the Show.*
[7 entries.]

I. (£10.)—B. W. MILLS, 20, West Kensington Gardens, Hammersmith Road, London, W.14, black mare, **Plain Jane**.

II. (£5.)—W. BRAMBY, West Pole Farm, Old Southgate.

III. (£3.)—S. MARSH, Scamperdale, Hunting Stables, Redlud, roan mare, **Tomtit**.

IV. (£2.)—F. ALLISON, Newbiggin, Penrith, Cumberland, brown mare, **Temptress**.

R.—R. THACKRAY, Fords Farm, Calcot, Reading, **Don**.

CLASS 61.—*Mare or Gelding, over 15 hands, jumping over the course in the best form, on the second day of the Show.* [15 entries.]

I. (£10.)—F. ALLISON, Newbiggin, Penrith, brown gelding, **Nap**.

II. (£5.)—R. THACKRAY, Fords Farm, Calcot, Reading, **Blue Bird**.

III. (£3.)—B. W. MILLS, 20, West Kensington Gardens, Hammersmith Road, W.14, bay gelding, **Achchha**.

IV. (£2.)—J. TAYLOR, Moss Hall, Stretton, Warrington, **Jimmy**.

CLASS 62.—*Mare or Gelding, 15 hands and under, jumping over the course in the best form, on the second day of the Show.*
[13 entries.]

I. (£10.)—A. MASSARELLA, Doncaster.

II. (£5.)—F. W. FOSTER, Marsh Farm, Etwall, Derby, brown gelding, **Game Cock**.

III. (£3.)—F. ALLISON, Newbiggin, Penrith, brown mare, **Temptress**.

IV. (£2.)—S. MARSH, Scamperdale Hunting Stables, Redhill, roan mare, **Tomtit**.

R.—W. BRAMBY, West Pole Farm, Old Southgate.

CLASS 63.—*Mare or Gelding, any height, jumping over the course in the best form, on the third day of the Show.* [29 entries.]

I. (£10.)—F. W. FOSTER, Etwall, Derby, **Game Cock.**

Equal II. (£4.)—J. TAYLOR, Warrington, bay gelding, **Jimmy.**

Equal II. (£4.)—B. W. MILLS, 20, West Kensington Gardens, Hammersmith Road, W.14, black mare, **Plain Jane.**

IV. (£2.)—F. ALLISON, Newbiggin, Penrith, brown mare, **Temptress.**

CLASS 64.—*Mare or Gelding, any height, jumping highest, on the third day of the Show.* [11 entries.]

Equal I. (£7 10s.)—F. ALLISON, Newbiggin, Penrith, brown gelding, **Nap.**

Equal I. (£7 10s.)—A. MASSERELLA, Doncaster, **Gay Boy.**

III. (£2.)—Mrs. C. MUSPRATT, Berkhamsted, bay gelding, **Flashlight.**

CLASS 65.—*Mare or Gelding, over 15 hands, jumping over the course in the best form, on the fourth day of the Show.* [22 entries.]

Equal I. (£8.)—B. W. MILLS, 20, West Kensington Gardens, Hammersmith Road, W.14, bay gelding, **Achehha.**

Equal I. (£8.)—F. ALLISON, Newbiggin, Penrith, **Nap.**

Equal I. (£8.)—Miss BULLOWS, **The Clipper.**

Equal IV. (£1.)—F. ALLISON, Newbiggin, Penrith, **The Wizard.**

Equal IV. (£1.)—R. THACKRAY, Fords Farm, Calcot, Reading, **Blue Bird.**

CLASS 66.—*Mare or Gelding, 15 hands and under, jumping over the course in the best form, on the fourth day of the Show.* [12 entries.]

I. (£10.)—A. STUBBS, Bicester, **Walt-for-Me.**

II. (£5.)—R. THACKRAY, Fords Farm, Calcot, Reading, **Don.**

III. (£3.)—B. W. MILLS, 20, West Kensington Gardens, Hammersmith Road, W.14, black mare, **Plain Jane.**

IV. (£2.)—F. ALLISON, Newbiggin, Penrith, brown mare, **Temptress.**

CLASS 67.—*Mare or Gelding, any height, jumping highest, on the fifth day of the Show.* [10 entries.]

I. (£10.)—F. ALLISON, Newbiggin, Penrith, chestnut gelding, **The Wizard.**

II. (£5.)—F. ALLISON, **Nap.**

III. (£2.)—Mrs. C. MUSPRATT, Berkhamsted, bay gelding, **Flashlight.**

CHAMPION CLASS.

CLASS 68.—*Mare or Gelding, any height, having won a Prize in Classes 59 to 67, jumping over the course in the best form, on the fifth day of the Show.*

I. (£20 and Medal*)—A. STUBBS, Bicester, **Walt-for-Me**.

Equal II. (£7 10s.)—B. W. MILLS, 20, Kensington Gardens, Hammer-smith Road, W.14, bay gelding, **Achchha**.

Equal II. (£7 10s.)—J. TAYLOR, Warrington, bay gelding, **Jimmy**.

CATTLE.

DEVON.

CLASS 69.—*Cow or Heifer, in-Milk, calved in or before 1923.*
[5 entries.]

I. (£10.)—Executors of the late CHARLES MORRIS, Highfield Hall, St. Albans and Bishops Lydeard, **Highfield Beautiful 2nd** (34201), born 9th September, 1921, bred by Charles Morris; s Highfield Gem (9329), d Beauty 5th (28861), s d Cutsey Gordon (8004). (Last calf 20th December, 1925).

II. (£5.)—Ditto, ditto, **Highfield Cherry 2nd** (35224), born 30th January, 1922, bred by Charles Morris; s Highfield Gem 2nd (9329), d Northmoor Cherry (31554), s d Gotton Prince 2nd (8070). (Last calf 15th January, 1926).

III. (£2.)—FRED. W. VERNEY, Avercombe, Bishops Cleeve, **Cothelstone Bribery** (32905), born 14th August, 1920, bred by C. L. Hancock, Cothelstone, Bishops Lydeard; s All But (9935), d Bride (26696), s d War Cry (6940).

R.—JOHN CHYNOWETH, Abbess Hall, Abbess Roding, Ongar, Essex, **Abbess Mirium 2nd** (34835), born 20th April, 1922; s Upcott Banker (10357), d Lyons Mirium (30292), s d Highfield Nobleman (8116).

H.C.—FREDERICK VIGUS, Chelsing Farm, Ware, Herts, **Maiden 1st**, born 16th April, 1921; s Crazleowman Sovereign (10034), d Maiden (31532), s d Caesar (9185). (Last calf 9th January, 1926).

CLASS 70.—*Devon Heifer, calved in 1924.* [4 entries.]

I. (£10.)—H.M. The KING, The Royal Farms, Windsor, **Windsor Sadle** (36499), born 7th March; s Highfield Warrior (11917), d Windsor Sunray (31585), s d Windsor Famous (9522).

SPECIAL PRIZE.

* Given by the British Show Jumping Association to Members of that Association who had paid their Subscriptions for the current year. A Silver Medal to the Horse making the least number of faults in Class 68, the horse being a prize winner in the Class and not having previously won the Medal this year.

II. (£5.)—Executors of the late **CHARLES MORRIS**, Highfield Hall, St. Albans and Bishops Lydeard, **Highfield Cherry 3rd** (37213), born 1st January, bred by Charles Morris; s Highfield Gem 2nd (9329), d Northmoor Cherry (31554), s d Gotton Prince 2nd (8070).

III. (£2.)—Ditto, ditto, **Highfield Fairmaid 6th** (37224), born 10th January, bred by Charles Morris; s Highfield Gem 2nd (9329), d Highfield Fairmaid 5th (32174), s d Brysanton Masterpiece (8783).

R.—**FREDERICK VIGUS**, Chelsing Farm, Ware, Herts, **Chella 3rd**, born 6th January; s Crazelowman Sovereign (10034), d Chella (27857), s d Harbona (7100).

(The Prizes in Class 71 were offered by the late C. Morris, Esq.)

CLASS 71.—*Devon Heifer, calved in 1925.* [8 entries.]

I. (£7.)—**H.R.H. The PRINCE OF WALES, K.G.**, Home Farm, Stoke Climsland, Cornwall, **Coombeshead Carnation**, born 5th January; s Clampit Non-such (10924), d Coombeshead Cress (34611), s d Coombeshead Abbott (10931).

II. (£3.)—**ROBERT BRUFORD**, Nerrols, Taunton, **Nerrols Dropwort 7th**, born 21st March; s Highfield War Baby (9342), d Nerrols Dropwort 2nd (30762), s d Highfield Chieftian (8915).

R.—**CLIFFORD THORNE**, Rutland Villa, Maindee, Newport, Mon., **Dewdrop 31st**, born 14th March, bred by A. J. Hill, Roadwater, Washford, Somerset; s Pound Paragon (10285), d Dewdrop 26th (27652), s d Roadwater Jumbo (8246).

H.C.—**ROBERT BRUFORD**, **Nerrols Lavender, 3rd**, born 3rd April; s Norton Hero (12394), d Nerrols Lavender 2nd (34744), s d Highfield Advance (9318).

C.—**GEORGE CLEVERLY ALEXANDER**, Manor Farm, Winterbourne Stoke, Salisbury, **Stoke Buttercup** (37670), born 22nd July; s Cutsey Rubber (10977), d Pickwell Buttercup 5th (33439), s d Pickwell Sir Gilbert (9419).

CLASS 72.—*Devon Bull, calved in or before 1924.* [2 entries.]

I. (£10) and Champions*† (£10).—**ABRAHAM TRIBLE AND SONS**, Halsdon, Holsworthy, **Overton Goldecoin 2nd** (10236), born 6th May, 1918, bred by the late W. Huxtable, Overton, Barnstaple; s Capton Buttermen (9816), d Overton Myrtle (25912).

II. (£5.)—**FRED. W. VERNEY**, Avercombe, Bishopsnympton, **Molland Wonder** (12362), born 12th July, 1923, bred by F. Cockram, Barton Molland; s Landkey Cowboy (10650), d Yarncombe Milkmaid 1st (34686), s d Putsham Good Boy (6883).

CLASS 73.—*Devon Bull, calved in 1925.* [6 entries.]

I. (£10) and Reserve for Champions*†—**H.R.H. The PRINCE OF WALES, K.G.**, Home Farm, Stoke Climsland, Cornwall, **Coombeshead Conqueror**, born 16th March; s Pixford Dryad (10718), d Cothelstone Gay Girl (31017), s d Holcombe Admiral (7411).

* Given by H.R.H. The Prince of Wales, K.G., a Challenge Cup, value £30, for the best Bull exhibited in Class 72 or 73, to be won three times in succession or four times altogether before becoming the property of the winner.

† Given by the Devon Cattle Breeders' Society for the best Animal exhibited in Classes 69 to 73.

II. (£5.)—H.M. The KING, The Royal Farms, Windsor, **Longland's Larker** (Vol. 49), born 10th January, bred by Thomas Triggol, Longlands, Bishops Lydeard, Somerset; s Pound Larker (10282), d Heatherton Handsome 56th (34673), s d Pound Honesty (11181).

III. (£2.)—GEORGE CLEVERLY ALEXANDER, Manor Farm, Winterbourne Stoke, Salisbury, **Stoke Royal**, born 14th April; s Cutsey Rubber (10977), d Cutsey Joan (31775), s d Gotton Prince 4th (8499).

R.—Executors of the late CHARLES MORRIS, Highfield Hall, St. Albans and Bishops Lydeard, **Highfield Lucky Boy** (Vol. 49), born 2nd February, bred by Charles Morris; s All Right (10832), d Highfield Luck 2nd (35241), s d Commissioner (10004).

H.C.—GEORGE CLEVERLY ALEXANDER, **Stoke Welcome**, born 27th May; s Cutsey Rubber (10977), d Butterleighs Farewell (31796), s d Woodlands Rent Day (9531).

C.—JOHN CHYNOWETH, Abbess Hall, Abbess Roding, Ongar, Essex, **Abbess Magic**, born 6th July; s Crazelowman Sovereign (10034), d Lyons Matilda (29325), s d Highfield Nobleman (8116).

SOUTH DEVON.

(£10 towards the Prizes in the South Devon Classes were given by the South Devon Herd Book Society).

CLASS 74.—*South Devon Cow or Heifer, in-Milk, calved in or before 1923.* [2 entries.]

I. (£10) and Challenge Cup*—HENRY CHAFFE, Harestone, Brixton, South Devon, **Worswell Gladys XI**, born 2nd July, 1919; s Wedland Champion (6874), d Worswell Gladys IV (13663), s d Merafield Royal Star. (Last calf 20th January, 1926).

II. (£5.)—LORD MILDMAI OF FLETE, Ermington, Devon, **Flete Carnation** (27260), born 20th March, 1922; s Trehele Forester (9500), d Christine's Maid (12961), s d Ley Marquis. (Last calf 16th March, 1926).

CLASS 75.—*South Devon Heifer, calved in 1924 or 1925.* [3 entries.]

I. (£10.)—WILLIAM LORY HOSKING AND SONS, Fentongollan, Probus, Cornwall, **Fentongollan Buttermaker**, born 15th May, 1925; s Fentongollan Apollo (8466), d Fentongollan Stella (18298), s d Blagdon Major (4750).

II. (£5.)—LORD MILDMAI OF FLETE, Ermington, Devon, **Flete Pink III** (30307), born 19th January, 1924; s Trehele Forester (9500), d Flete Pink (23515), s d Random.

III. (£2.)—Ditto, ditto, **Flete Princess** (30308), born 1st January, 1924; s Trehele Forester (9500), d Flete Countess 2nd (25432), s d General.

* Given by H.R.H. The Prince of Wales, K.G., a Silver Challenge Cup for the best Cow in-Milk in the South Devon Classes, to be won three times in succession or four times altogether before becoming the property of the Winner.

CLASS 76.—*South Devon Bull, calved in or before 1924.* [3 entries.]

I. (£10.)—W. L. HOSKING AND SONS, Fentongollan, Probus, Cornwall, **Fentongollan Apollo** (8466), born 5th September, 1919; s **Palston Ruler** (5548), d **Kitty** (9352).

II. (£5.)—Lord MILDMAI OF FLETE, Ermington, Devon, **Gerston King** (10700), born 26th April, 1923, bred by A. Soper and Sons, Gerston, Totnes; s **Milton King** (8629), d **Julia 10th** (18952), s d **Molenick Monarch** (4971).

CLASS 77.—*South Devon Bull calved in 1925.* [1 entry.]

I. (£10.)—DAVID CAMP AND SONS, Widland, Modbury, S. Devon, **Widland Baronet**, born 2nd January; s **Trehele Forester** (9500), d **Widland Careful 7th** (24556), s d **Napoleon 17th** (6663).

SHORTHORN.

CLASS 78.—*Cow or Heifer, in-Milk, calved in or before 1923.* [2 entries.]

I. (£10.)—Sir CECIL CHUBB, Bart., Bapton Manor, Codford, Wilts, roan, **Princess Margaret**, born 5th January, 1922, bred by J. Deane Willis, Stratton Park, Stratton St. Margarets, Wilts; s **Billington Snowstorm** (154027), d **Princess Mary** (Vol. 60., p. 780), s d **Musical Mac** (112632).

II. (£5.)—Hon. Mrs. BRUCE WARD, Godinton, Ashford, Kent, white, **Godinton Lady Tarves 4th**, born 22nd May, 1923; s **Godinton Grand Duke** (163580), d **Godinton Lady Tarves** (19233), s d **Bilsington Highflyer** (124331), (Last Calf 14th March, 1926).

CLASS 79.—*Shorthorn Heifer, calved in 1924.* [6 entries.]

I. (£10.)—Hon. Mrs. BRUCE WARD, Godinton, Ashford, Kent, roan, **Godinton Groat 9th**, born 2nd March; s **Godinton Golden Autumn** (171953), d **Dewlap 14th** (Vol. 66, p. 1095), s d **Bilsington Vanguard**.

II. (£5.)—H.R.H. The PRINCE OF WALES, K.G., Home Farm, Stoke Climsland, Cornwall, red, **Climsland Orange Blossom 4th**, born 3rd March; s **Collynie Herald** (179685), d **Orange Flower 26th**, s d **Butterfly Knight** (130029).

III. (£2.)—H.M. The KING, The Royal Farms, Windsor, red, **Windsor Luxury 2nd**, born 21st March; s **Royal Gauntlet** (159047), d **Mullantean Luxury 2nd**, s d **Ulster Scot** (139828).

R.—Ditto, ditto, red, **Windsor Clipper Gem**, born 21st June; s **Lutwyche Mint** (173747), d **Windsor Clipper**, s d **Fairy King** (130952).

CLASS 80.—*Shorthorn Heifer, calved in 1925.* [9 entries.]

I. (£10.)—H.M. The KING, The Royal Farms, Windsor, roan, **Windsor Fairy Gem**, born 8th February; s **Inchfield Dycotelyton** (190806), d **Windsor Flower** (32517), s d **Edgoote Flatterer** (125374).

II. (£5.)—H.R.H. The PRINCE OF WALES, K.G., Home Farm, Stoke Climsland, Cornwall, roan, **Climsland Orange Blossom 5th**, born 26th January; s **Dykedale Eclipse** (180477), d **Orange Bud** (9649), s d **Christian King** (147900).

III. (£2).—Sir CECIL CHUBB, Bart., Bapton Manor, Codford, Wilts, red, **Princess Allee**, born 4th February.

R.—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, white, **Basildon White Ramsden**, born 6th February; s Cudham Moonlight (162593), d Basildon Miss Ramsden (40263), s d Collynie Grand Prince (154921).

H.C.—Sir BERNARD GREENWELL, Bart., Marden Park, Woldingham, Surrey, light roan, **Marden Luxury**, born 2nd April; s Godinton Gregorian (163582), d Eastbridge Luxury (Vol. 69, p. 953), s d Pellipar Paddy (165827).

H.C.—Hon. Mrs. BRUCE WARD, Godinton, Ashford, Kent, roan, **Godinton Orphan 8th**, born 17th February; s Balcairn Eagle (168680), d Bilsington Orphan 8th (Vol. 65, p. 587), s d Dewlaps Royal Sovereign (125170).

CLASS 81.—*Shorthorn Bull, calved in 1922 or 1923.* [4 entries.]

(I. (£10) and Champion (£10)*)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, white, **Basildon Royal 2nd**, born 15th January, 1923; s Collynie Orient (170462), d Basildon Rosewood (Vol. 64, p. 1132), s d Scarabe (128047).

II. (£5).—Sir CECIL CHUBB, Bart., Bapton Manor, Codford, Wilts, roan, **Bapton Blizzard** (178201), born 2nd March, 1922, bred by J. Deane Willis, Stratton Park, Stratton St. Margarets, Wilts; s Billington Snowstorm (154027), d Bountiful (Vol. 62, p. 1181), s d Bapton Reuben (114127).

III (£3).—Hon. Mrs. BRUCE WARD, Godinton, Ashford, Kent, white, **Godinton Proud Earl** (190055), born 25th October, 1923; s Pellipar Air Boss (165820), d Proud Actress 2nd, s d Hean Monitor (131417).

CLASS 82.—*Shorthorn Bull, calved in 1924.* [5 entries.]

I. (£10) and Reserve for Champion*—Hon. Mrs. BRUCE WARD, Godinton, Ashford, Kent, red, **Godinton Fearless Guardsman** (199010), born March 10th; s Moniak Guardsman (174201), d Orange Sprig (27381), s d Balcairn Baronet (153566).

II. (£5).—H.R.H. The PRINCE OF WALES, K.G., Home Farm, Stoke Climsland, Cornwall, roan, **Climsland Golden Ray** (197372), born 4th October; s Dykedale Eclipse (180477), d Climsland Goldie (9644), s d Christian King (147900).

III. (£2).—C. E. GUNTHER, Tongswood, Hawkhurst, Kent, red roan, **Cluny Golden Charm** (197489), born 7th March, bred by Lady Cathcart, Cluny Castle, Aberdeen; s Cluny Regal Star (154879), d Cudham Broadhooks 4th, s d Golden Charm (136750).

R.—Lord GLANELY, Lackham, Lacock, Wilts, red, **Millhills Authority**, born 26th February, bred by D. M. Stewart, Millhills, Crief; s Cupbearer of Collynie (114960), d Augusta Maid, s d Merry Morning (116559).

* Given by the Shorthorn Society, for the best Shorthorn Bull in Classes 81 to 83, entered in, or eligible for entry in Coate's Herd Book, with Silver Medal to the Breeder.

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CLASS 83.—*Shorthorn Bull, calved in 1925.* [7 entries.]

I. (£10).—Hon. Mrs. BRUCE WARD, Godinton, Ashford, Kent, white, **Godinton Midas** (Vol. 72), born 7th February; s Balcairn Eagle (168680), d Bilsington Alexandrina (Vol. 60, p. 612), s d Daylight (108349).

II. (£5).—Lord GLANELY, Lackham, Lacock, Wilts, roan, **Lackham Matador**, born 17th January; s Lackham Regent (182288), d Bainesse's Marigold, s d Cudham Max (155167).

III. (£2).—Mrs. Eva Jewell, Henden Manor, Ide Hill, Sevenoaks, Kent, dark roan, **Heathenden Regulus** (Vol. 72), born 9th January; s Calrossie Convoy (188125), d Rothiebristane Rosewood, s d Collynie Premier (124847).

R.—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, dark roan, **Basildon Fascinator**, born 14th February; s Cudham Moonlight (162593), d Basildon Clipper (6007), s d Count Benedict (124951).

H.C.—Sir CECIL CHUBB, Bart., Bapton Manor, Codford, Wilts, red, **Bapton Autocrat** (Vol. 72), born 2nd January; s Cluny Prince Regent (179639), d Augustine (44426), s d Billington Snowstorm (154027).

COUNTY SHORTHORN CLASSES.

CLASS 84.—*Shorthorn Cow, calved previous to 1923, in-Milk or in-Calf, having produced a live calf.* [1 entry.]

I. (£5).—H. W. BISHOP and J. W. MEASURES, Pendley Stock Farms, Tring, red, **Cudham Princess Royal**, born 16th April, 1918, bred by A. W. Maconochie; s Golden Charm (136750), d Princess Royal D., s d Stortford Duke (107044). (Last calf 1st February, 1926).

CLASS 85.—*Shorthorn Heifer, calved in 1924 or 1925.* [3 entries.]

I. (£5).—Lord DESBOROUGH, G.C.V.O., Panshanger, Hertford, red, **Panshanger Betty 2nd**, born 20th September; s Collynie Golden Key (170455), d Denton Betty (36916), s d Collynie Lavender King (141709).

II. (£3).—H. W. BISHOP and J. W. MEASURES, Pendley Stock Farms, Tring, red roan, **Pendley Nonpareil III**, born 28th May, 1925; s Fairlawne Viceroy (171518), d Notlaw Nonpareil 51st, s d Notlaw Likely (174505).

III. (30/-).—HARRY SMITH, Watford Heath Farm, Watford, red, born 4th December, 1924.

CLASS 86.—*Shorthorn Bull, any age.* [3 entries.]

I. (£5).—J. STANLEY CORBY, Cuckmans, St. Stephen's, St. Albans, roan, **Cherry Duke** (188366), born 6th April, 1923, bred by C. J. Slack, Thorpe, Terril, Penrith; s Hole House (156502), d Cherry Maid, s d Notlaw Bridegroom.

II. (£3).—H. W. BISHOP and J. W. MEASURES, Pendley Stock Farms, Tring, white, **Pendley Barrister**, born 1st April, 1925; s Fairlawne Viceroy (171518), d Princess Royal 47th (8423), s d Captain General (130056).

III. (30/-).—T. SPENCER and E. CRAWLEY Greenfield Farm, Ickleford, red and little white, **Merryman**, born 15th January, bred by R. G. Roberts, Well House, Bretton, Cheshire; s Barugh Ramsden (169027), d Maimey, s d Terrona King (128473).

Prizes awarded to County Shorthorn and Dairy Shorthorn Cattle. xxix

SPECIAL DISTRICT PRIZES.

(The First Prize and a Silver Medal to the Breeder were offered by the Shorthorn Society, and the Prizes would not be awarded unless 5 individual Exhibitors should have made entries. No Bull could take more than one District Prize offered by the Shorthorn Society.)

Best Shorthorn Bull, calved in 1925, eligible for and entered in Coate's Herd Book with a registered number or pedigree sent for such entry previous to the Show, the property of an Exhibitor residing in the District for which the prize was offered and located there from the time of entry until the Show—First prize, £10—second, £5. [2 entries.]

[No Award.]

DAIRY SHORTHORN.

(The First Prizes in Classes 87 and 88 (and a Silver Medal to the Breeder of the winners) were given by the Shorthorn Society and the First Prize in Class 92 by the Dairy Shorthorn Association).

CLASS 87.—*Pedigree Dairy Shorthorn Cow, in-Milk, calved in or before 1922, eligible for, and entered in Coate's Herd Book, or pedigree sent for such entry previous to the Show, and not having previously won a similar prize offered by the above-named Society in 1926, milked in the Ring before judging, under Conditions 59. [8 entries.]*

I. (£10.)—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, red and little white, **Hastoe Barrington 9th** (43423), born 18th May, 1922, bred by Mr. J. Timberlake, Hastoe, Tring, Herts; s Dauntless Duke 2nd (136092), d Hastoe Barrington 2nd, s d Kuke of Acomb (119958). (Last calf May 11th, 1926).

CLASS 88.—*Pedigree Dairy Shorthorn Cow, calved in or after 1923, eligible for, and entered in Coate's Herd Book, or pedigree sent for such entry previous to the Show, and not having previously won a similar prize offered by the above-named Society in 1926, milked in the Ring before judging, under Conditions 59. [8 entries.]*

I. (£10.)—E. A. SMITH, Longhills, Lincoln, red and little white, **Longhills Belle III**, born 18th May, 1923; s Longhills Musician (173569), d Longhills Belle II (Vol. 67, p. 1081), s d Oxford Bridegroom (121914). (Last calf April 27th, 1926).

II. (£5.)—J. TIMBERLAKE, Hastoe Farm, Tring, white, **Freshwater Charming Lass 7th** (49620), born 1st October, 1923, bred by Sir H. Harmsworth, Bart., Shipley; s Baron Desmond (168938), d Freshwater Charming Lass (13698), s d Kolmscott Conjurer 8th (143175). (Last calf May 8th, 1926).

III. (£2.)—Ditto, ditto, roan, **Hastoe Wild Queen 9th**, born 5th May, 1923 ; s Duke Orlando (171201), d Hastoe Wild Queen 6th, s d Dauntless Duke 2nd (136092). (Last calf 24th February, 1926).

CLASS 89.—*Pedigree Dairy Shorthorn Heifer, calved in 1924.*

[9 entries.]

I. (£10.)—Sir GILBERT A. H. WILLS, Bart., Batsford Park, Moreton-in-Marsh, Glos., roan, **Batsford Ringlet 4th**, born 10th May ; s Thornby Lord Foggathorpe (167521), d Batsford Ringlet, s d Thornby Pioneer (133922).

II. (£5.)—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, red and little white, **Aldenham Ringlet 2nd** (65294), born 14th January ; s Cantab Jocelyn's Armistice (147744), d Apley Ringlet (6591), s d Dairyman (136512).

III. (£2.)—J. STANLEY CORRY, Cuckmans, St. Stephens, St. Albans, red and little white, **Cuckmans Red Rose**, born 10th May ; s Mulcaster Don (174308), d Arlosh Benson 8th, s d Arlosh Duke (129124).

R.—ALLEN AND ROGERS, Halford Farm, Craven Arms, Salop, roan, **Primrose Dairymaid 9th**, born 20th May, bred by W. Lea, Bryneurnyn, Colwyn Bay ; s Bryneurnyn Trickster (179001), d Primrose Dairymaid 5th (Vol. 65, p. 972), s d Merry Prince (137985).

H.C.—Mrs. EDITH M. PHIPPS, Grendon-Underwood, Aylesbury, roan, **Carnation**, born 1st October, bred by W. H. Phipps, Grendon-Underwood ; s Great Tew Lord (172129), d Duchess of Barrington 13th (35834), s d Beau Idea (153920).

CLASS 90.—*Pedigree Dairy Shorthorn Heifer, calved in 1925.*

[9 entries.]

I. (£10.)—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, red and little white, **Aldenham Wild Eyes**, born 18th May ; s Cantab Jocelyn's Armistice (147744), d Barrington Wild Eyes 8th, s d Solid Silver (107123).

II. (£5.)—ALLEN AND ROGERS, Halford Farm, Craven Arms, Salop, roan, **Newington Princess**, born 3rd February ; s Marlowe Marquis (191954), d Cumberland Butterfly (14519), s d Golden Sceptre (149149).

III. (£2.)—E. A. SMITH, Longhills, Lincoln, roan, **Longhills Melody 4th**, born 16th January ; s Babraham Lord Price (140574), d Longhills Melody 3rd (Vol. 69, p. 1202), s d Oxford Bridegroom (121914).

R.—H. J. WATSON, Hermongers, Rudgwick, Sussex, roan, **Hermongers Dorothy**, born 1st June ; s Hermongers Count (190488), d Ockley Dainty 2nd (21911), s d Duke of Oxford 3rd (148547).

H.C.—Mrs. EDITH M. PHIPPS, Grendon-Underwood, Aylesbury, **Fellbridge Fairy Waterloo**, born 17th January ; s Foxhill Red Duke (171710), d Waterloo Dagmar, s d Fairford (120176).

C.—Sir ALFRED MOND, Bart., Melchet Court, Romsey, Hants, roan, **Melchet Lady 3rd**, born 19th January ; s Melchet Forrester (174030), d Lady of the Manor (Vol. 61, p. 586), s d Lord Mayflower (116311).

C.—GEORGE MORTON SINCLAIR, Essendonbury, Hatfield, Herts, red roan, **Essendon Blah 3rd**, born 18th July ; s Lock Prince 3rd, d Marjorine, s d Kelmscott Regulator 11th.

CLASS 91.—*Pedigree Dairy Shorthorn Bull calved before 1925.*
[9 entries.]

I. (£10.)—J. S. CORBY, Cuckmans, St. Stephen's St. Alban's, roan **Cherry Duke** (188366), born 6th April, 1923, bred by C. J. Slack, Thorpe, Terril, Penrith; s Hole House (156502), d Cherry Maid, s d Notlaw Bridegroom.

II. (£5.)—J. O. HICKMAN, Micklefield Green, Rickmansworth, cream-white, **Prizet Promise**, born 2nd January, 1924, bred by A. T. Dobson, Prizet Farm, Helsington, Kendal; s Lingbird (164839), d Ripe Strawberry (Vol. 63, p. 927), s d Claras Captain.

III. (£2.)—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, red, **Aldenham Lord Barrington** (177679), born 13th May, 1922; s Preshute Bandit (151128), d Cockerham Barrington 2nd, s d Dandy (114984).

R.—H. J. WATSON, Hermongers, Rudgwick, Sussex, red, **Babraham Prince** (186840), born 24th May, 1923, bred by C. R. W. Adeane, Babraham Hall, Cambridge; s Lord Lee 2nd (121257), d Babraham Priceless 2nd, s d Tockenham Minstrel (133949).

H.C.—A. W. OSBORNE AND SONS, Branch Farm, Mells, Frome, red and little white, **Campsfield Squire 2nd**, born 1st October, 1924, bred by G. Twentymen, Campsfield, Woodstock, Oxon; s Duke of Rosedale 7th (171196), d Nellie Winsonia 2nd, s d Walby Star (128699).

H.C.—E. A. SMITH, Longhills, Lincoln, roan, **Sorbrook Summertime** (194227) born 25th May, 1923, bred by Major S. P. Yates, Broughton Grange, Banbury; s Foxhill Springtime (163353), d Foggathorpe Primrose (Vol. 62, p. 1136), s d Imperial Furbelow (120805).

C.—Sir ALFRED MOND, Bart., Melchet Court, Romsey, Hants, roan, **Melchet Major 2nd** (200922), born 24th March, 1924; s Melchet Pluto 2nd (183065), d Furbelow Princess (Vol. 62, p. 645), s d Major Frith (121367).

CLASS 92.—*Pedigree Dairy Shorthorn Bull, calved in 1925, entered or pedigree accepted for entry in Coates's Herd Book and registered or accepted for registration in the Year Book of the Dairy Shorthorn Association.* [An animal having taken one of these prizes was not eligible to compete again the same year except at the R. A.S.E. Show.] [10 entries.]

I. (£10.)—Sir GILBERT A. H. WILLS, Bart., Batsford Park, Moreton-in-Marsh, dark roan, **Batsford Magnate**, born 8th May; s Thornby Prime Minister (167526), d Colescombe Lauristina 3rd, s d Colescombe Ringleader (154904).

II. (£5.)—Lieut.-Colonel W. M. PRYOR, D.S.O., Lannock Manor, Weston, Stevenage, Herts, light roan, **Lannock Baron 2nd**, born 1st January; s Lannock Hero (173240), d Darling 36th (Vol. 64, p. 991), s d Dairy Prince (114977).

III (£2) and Special (£10)*—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, red, **Aldenham Lord Florentine**, born 20th May; s Aldenham Lord Barrington (177679), d Aldenham Florentina (40179), s d Cantab Jocelyn's Armistice (147744).

*Given by the Dairy Shorthorn Association, for the best Bull in Class 92 qualified in accordance with conditions No. 60.

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Shorthorn Cattle.*

R.—J. STANLEY CORBY, Cuckmans, St. Stephens, St. Albans, roan, **Cuckmans Cherry Prince**, born 25th June ; s Mulcaster Don (174308), d Cherry Pie, s d Blasterfield Milk Boy (147350).

H.C.—and Reserve for Special*—Major R. F. FULLER, Great Chalfield, Melksham, white, **Chalfield Snowdrop's Don** (Vol. 72), born 6th July ; s Preshute Waterloo Don (174965), d Chalfield Snowdrop 3rd (13028), s d Wild Gift (146378).

H.C.—H. J. WATSON, Hermongers, Rudgwick, Sussex, white, **Hermongers King**, born 7th June ; s Orfold Buttermen (183632), d Hermongers Proud Belle (43936), s d Kelmscott Comedian 11th (164367).

C.—Major R. F. FULLER, Great Chalfield, Melksham, red, **Chalfield Snowdrop's Cornerstone 5th** (Vol. 72), born 11th April ; s Histon Cornerstone 2nd (172477), d Ogbourne Snowdrop 18th (Vol. 65, p. 782), s d Lord Kirklevington (137665).

C.—Sir ALFRED MOND, Bart., Melchet Court, Romsey, Hants, roan, **Melchet Duke 3rd**, born 13th April ; s Melchet Major (190243), d Melchet Dinah (40124), s d Combebank Baron (148062).

COUNTY DAIRY SHORTHORN CLASSES.

(Open only to residents in the County Radius).

CLASS 93.—*Dairy Shorthorn Cow, calved previous to 1923, in-Milk or in-Calf, and having produced a Live Calf.* [7 entries.]

I. (£5.)—Brigadier-General Viscount HAMPDEN, K.C.B., C.M.G., The Hoo, Kimpton, Herts, light roan, **Princess**. (Last calf 12th January, 1926).

II. (£3.)—F. RUSSELL WOOD, Bendish House, Welwyn, red, **Bendish Pansy 5th**, born 11th January, 1919, bred by S. Blundell ; s Sudbrooke Seaman (12976), d Bendish Pansy, s d Crimson Boy (4772).

III. (£1 10s.)—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, red and little white, **Hastoe Barrington 9th** (43423), born 18th May, 1922, bred by Mr. J. Timberlake, Hastoe, Tring, Herts ; s Dauntless Duke 2nd (136092), d Hastoe Barrington 2nd, s d Kuke of Acomb (119958). (Last calf May 11th, 1926).

R.—J. STANLEY CORBY, Cuckmans, St. Stephens, St. Albans, light roan, **Orange Princess**, born 16th March, 1921, bred by T. Fisher, Wetherall Abbey, Carlisle ; s Grand Style (156219), d Orange Blossom, s d Middlesfield Swell (121580). (Last calf 23rd February, 1926).

H.C.—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, roan, **Miss Foggathorpe 12th** (972), born 29th January, 1919, bred by Rev. C. H. Brocklebank, Bartlow House, Bartlow, Cambs. ; s Barrington Chief (134987), d Miss Foggathorpe 8th, s d Waterloo Hero (123521).

C.—FRANK LIPSCOMB, Merry Hill Farm, Bushey, Herts, roan, **Merry Hill Mary** (12151 A.Y.), born 16th February, 1922. (Last calf 2nd January, 1926).

C.—GEORGE MORTON SINCLAIR, Essendonbury, Hatfield, Herts, red and little white, **Essendon Daisyl**, born 1st August, 1920 ; s Ruby's Beau, d Harbour Daisy 4th, s d Baron Lee 19th. (Last calf 1st May, 1925).

* Given by the Dairy Shorthorn Association, for the best Bull in Class 92 qualified in accordance with conditions No. 60.

*Prizes awarded to County Dairy Shorthorn and
Hereford Cattle.* xxxiii

CLASS 94.—Dairy Shorthorn Heifer, calved in 1923, in-Milk or in-Calf. Judge to have special regard to milking qualities.
[6 entries.]

I. (£5.)—J. **TIMBERLAKE**, Hastoe Farm, Tring, white, **Freshwater Charming Lass 7th** (49620), born 1st October, 1923, bred by Sir H. Harmsworth, Bart., Sniple; s Baron Desmond (168938), d Freshwater Charming Lass (13698), s d Kelmscott Conjuror 8th (143175). (Last calf May 8th, 1926).

II. (£3.)—Ditto, ditto, roan, **Hastoe Wild Queen 9th**, born 5th May, 1923; s Duke Orlando (171201), d Hastoe Wild Queen 6th, s d Dauntless Duke 2nd (136092). (Last calf 24th February, 1926).

III. (£1 10s.)—I. **STANLEY CORBY**, Cuckmans, St. Stephens, St. Albans, white, **Cuckmans Sloadrop**, born 12th June, 1923; s Lilac Bugler (173454), d Lady Strawberry, s d Ragla (144691).

HEREFORD.

CLASS 95.—Hereford Cow or Heifer, in-Milk, calved before September 1st, 1923. [3 entries.]

I. (£10) and Reserve for Champion*—Sir **DAVID R. LLEWELLYN**, Bart., The Court, St. Fagans, **Cherry of Pitsford 2nd**, born 20th January, 1922, bred by G. H. Drummond, Pitsford Hall, Northampton; s Sir Sam (33131), d Brampton Cherry 5th (Vol. 45, p. 761), s d Eaton Sensation (24566). (Last calf 4th January, 1926).

II. (£5.)—Ditto, ditto, **Crossways Opal**, born 6th January, 1919, bred by Owen Williams, Crossways; s Ringer (31920), d Sheepcote Opal (Vol. 49, p. 625), s d Milton (25571). (Last calf January 3rd, 1926).

III. (£2.)—W. G. **BUCHANAN**, Manor House Farm, Abergavenny, **Birchend Gnat**, born 3rd January, 1920, bred by P. W. Taylor, Birchend, Ledbury; s Twyford Amateur (30147), d Horner (Vol. 50, p. 934), s d Gwernfyf Imperator (30633). (Last calf 19th November, 1925).

CLASS 96.—Hereford Heifer, calved on or between September 1st, 1923 and August 31st, 1924. [2 entries.]

I. (£10) and Champion (£10)*—H. M. **The KING**, The Royal Farms, Windsor, **Peggy**, born 29th February, 1924; s Lulsley Statesman (37327), d Primula (Vol. 50), s d Paymaster (32892).

II. (£5.)—Ditto, ditto, white and red, **Eunice**, born 9th March, 1924; s Luisley Statesman (37327), d Envy (Vol. 50), s d Admiral Beatty (31222).

CLASS 97.—Hereford Heifer, calved on or after September 1st, 1924.
[9 entries.]

I. (£10.)—Sir **DAVID R. LLEWELLYN**, Bart., The Court, St. Fagans, **Priory Cornelia 2nd**, born 30th October, 1924, bred by L. Blakstad, Whitney-on-Wye; s Priory Norseman (Vol. 55), d Cornelia, s d Leen Vistula (31664).

* Given by the Hereford Herd Book Society for the best registered Cow or Heifer in Classes 95 to 97.

II. (£5.)—Ditto, ditto, **Crossways Priscilla**, born 24th September, 1924, bred by O. Williams, Crossways, Cowbridge; s **Resolute** (35537), d **Crossways Prettymaid**, s d **Subaltern** (35654).

III. (£2.)—Sir MAURICE LEVY, Bart., D.L., J.P., Great Glen, Leicester, **Glen Futurist**, born 26th February, 1925; s **Viceroy of Pitsford**, d **Nan**, s d **Llangoed Dandy**.

R.—W. G. BUCHANAN, Manor House Farm, Abergavenny, **Goblon Lady Mary**, born 23rd November, 1924; s **Dauntless of Pitsford** (42185), d **Lady Mary**, s d **Saladin** (31957).

V.H.C.—DAVID PERCIVAL BARNETT, Walterston, Llancarfan, Cardiff, **Beauty**, born 11th November, 1924; s **Apsam** (40433), d **Bun** (Vol. 51, p. 263), s d **Newstead** (30814).

H.C.—Major H. R. PETTIT, Castle Weir, Lyonshall, Herefordshire, **Diana**, born 4th January; s **Star Comedian** (40058), d **Eastern Star** (Vol. 54, p. 484), s d **Sheikh Nuram** (35605).

CLASS 98.—Hereford Bull, calved before September 1st, 1923.

[2 entries.]

I. (£10.)—The DINAM ESTATES Co. (Mr. David Davies, M.P.), Llandinam Hall Farm, Llandinam, Co. Montgomery, **Dinam Magician** (42205), born 17th January, 1922; s **Resolute 2nd** (39895), d **Miranda** (Vol. 44, p. 358), s d **Lord Lieutenant** (22323).

II. (£5.)—Captain R. T. HINCKES, Mansel Court, Hereford, **Mansel Oysterman** (46182), born 4th June, 1923; s **Union Jack** (31136), d **Mansel Oyster Girl** 6th (Vol. 54, p. 353), s d **Mansel Jason** (37364).

CLASS 99.—Hereford Bull, calved on or between September 1st, 1923, and August 31st, 1924. [4 entries.]

I. (£10) and Reserve for Champion†—JOHN WALKER, Knightwick Manor, Worcester, **Knightwick Paragon**, born 14th March, 1924; s **Aldersend Prefect** (37474), d **Pansy**, s d **Gamester** (28308).

II. (£5.)—ERNEST STEVENS, Chapel Farm, Elmley Castle, Pershore, Worcs., **Pershore Pedlar** (45238), born 2nd January, 1924; s **Crossways Don** (38916), d **Pershore Pet** (Vol. 51, p. 666), s d **Ringer** (31920).

III. (£2.)—DAVID PERCIVAL BARNETT, Walterston, Llancarfan, near Cardiff, **Master Robert**, born 1st April, 1924; s **Walterston Sam** (38309), d **Dolesome** (Vol. 50, p. 870), s d **Sir Sam** (33131).

R.—Captain R. T. HINCKES, Mansel Court, Hereford, **Birchleen** (44506), born 31st January, 1924, bred by T. R. Thompson, Birchwood Hall, Malvern; s **Aldersend Conqueror** (38464), d **Sabrina** (Vol. 51, p. 682), s d **Leen Vistula** (31664).

CLASS 100.—Hereford Bull, calved on or after September 1st, 1924. [6 entries.]

I. (£10) and Champion (£10)†—WM. SMITH, The Leen, Pembridge, Hereford, **Leen Trumpeter**, born 23rd December, 1924; s **Wickton Silver Stream** (45545), d **Leen Tennor** (Vol. 55, p. 584), s d **Concord** (36419).

† Given by the Hereford Herd Book Society for the best registered Bull in Classes 98 to 100.

II. (£5.)—Sir MAURICE LEVY, Bart, D.L., J.P., Great Glen, Leicester, **Glen Fidelity**, born 11th November, 1924; s Viceroy of Pitsford, d Lively Times, s d Union Jack.

III. (£2.)—Captain R. T. HINCKES, Mansel Court, Hereford, **Neuadd Courage** (46236), born 1st January, 1925, bred by J. and G. Jeffreys, Neuadd, Trecastle, Brecon; s Clifton Colonel (36346), d Tamycraig Celandine (Vol. 55, p. 538), s d Defiance (36526).

R.—DAVID PERCIVAL BARNETT, Walterston, Llancafarn, near Cardiff, **Masterpiece**, born 21st March, 1925; s Walterston Sam (38309), d Crossways Nancy 2nd, s d Bounteous (36107).

V.H.C.—Sir DAVID R. LLEWELLYN, Bart., The Court, St. Fagans, **St. Fagans Paxolute**, born 1st April, 1925; s Resolute (35537), d Peace, s d Subaltern (35654).

SUSSEX.

(£15 towards the Prizes in the Sussex Classes and the Silver Medals were given by the Sussex Herd Book Society).

CLASS 101.—*Sussex Cow or Heifer, in-Milk, calved in or before 1923.*
[4 entries.]

I. (£10) and Medal*—ELLICE EZRA, Lock, Partridge Green, Sussex, **Marlands Lady Knelle**, born 15th November, 1921, bred by H. G. Latilla, Esq., Marlands, Itchingfield, Horsham; s Jacobite, d Knelle Flint Lady, s d Lynwick Luck. (Last calf 16th March, 1926).

II. (£5.)—Major J. R. WARREN, Handcross Park, Handcross, Haywards Heath, **Hardres Darkey**, born 21st March, 1922, bred by Sir John Esplen, Bart., Hardres Court, Canterbury; s Avisford Red Rover 2nd, d Lock Darkey 28th, s d Birling Geoffry 2nd. (Last calf 30th January, 1926).

III. (£2.)—WALTER PHILLIPS, The Hermitage Farm, Watlington, Kent, **Otterden Bluebell 2nd**, born 3rd June, 1917, bred by Sir G. C. H. Wheler, M.P., Otterden, Eastling, Kent; s Otterden Bunce, d Otterden Pearl, s d Mumford Brisley. (Last calf 7th November, 1925).

CLASS 102.—*Sussex Heifer, calved in 1924.* [3 entries.]

I. (£10) and Reserve for Medal*—ELLICE EZRA, Lock, Partridge Green, Sussex, **Lock Daisy**, born 12th February; s Jacobite, d Drungewick Daisy 16th, s d Drungewick A.I. 7th.

II. (£5.)—WALTER PHILLIPS, The Hermitage Farm, Watlington, Kent, **Hermitage Derby 1st**, born 11th January; s Bolebroke Peaceful Mariner, d Tidebrook Derby 9th, s d Shillinglee Gold 7th.

III. (£2.)—FRANK LENEY, Eaglesden, Benenden, Kent, **Eaglesden Careless**, born 20th March; s Brownings Miller 27th, d Somerhill Careless 23rd, s d Hadrian.

* Silver Medal for the best Cow or Heifer in Classes 101 to 103.

XXVI Prizes awarded to Sussex and British Friesian Cattle.

CLASS 103.—Sussex Heifer, calved in 1925. [6 entries.]

I. (£10.)—L. O. JOHNSON, Peppers, Ashurst, near Steyning, **King's Barn Pet** (Vol. XLI), born 20th February; s North Chapel Commander (5853), d Drungewick Pet 12th (18476), s d A One (3577).

II. (£5.)—Major J. R. WARREN, Handcross Park, Handcross, Haywards Heath, **Handcross Sikey 1st**, born 7th January; s Oakover Lad 10th, d Poulton Sukey 4th, s d Graveney Mascot.

III. (£2.)—L. O. JOHNSON, Peppers, Ashurst, near Steyning, **King's Barn Darkey 3rd**, born 17th February; s North Chapel Commander (5853), d Lock Darkey 13th (15990), s d Tutsham Beau (3212).

R.—LIEBIG'S EXTRACT OF MEAT CO., LTD., Crithall Farm, Benenden, Kent, red, **Crithall Belle 2nd**, born 3rd February (entered Vol. 41); s Tilsden Rufus 3rd (5850), d Rankins Belle (16760), s d Birling Boy (3729).

CLASS 104.—Sussex Bull, calved in or before 1925. [3 entries.]

I. (£10) and Medal†—L. O. JOHNSON, Peppers, Ashurst, near Steyning, **King's Barn S inbright**, born 5th January, 1924; s Sundridge (4573), d Avisford Heedless 3rd (19881), s d Red Miller (4918).

II. (£5) and Reserve for Medal† Major J. R. WARREN, Handcross Park, Handcross, Haywards Heath, Sussex, **Handcross Lad 1st**, born 28th January, 1924; s Oakover Lad 10th, d Dale Graceful 1st, s d Brownings Prince 7th.

III. (£2.)—WALTER PHILLIPS, The Hermitage Farm, Wateringbury, Kent, **Hermitage Mariner**, born 22nd January, 1923; s Bolebroke Peaceful Mariner, d Oakover Buxom, s d Oakover Gold 17th.

BRITISH FRIESIAN.

(£25 10s. towards the Prizes in the Friesian Classes were given by the British Friesian Cattle Society, and animals entered must have been registered in the B.F.C.S. Herd Book proper, those registered in Supplementary Section not being eligible).

CLASS 105.—British Friesian Cow or Heifer, any age, in-Milk. [15 entries.]

I. (£10.)—G. HOLT THOMAS, Northdean House, Hughenden, High Wycombe, **Northdean Barbara** (P.I. 74624), born 15th September, 1923; s Northdean (impt.) Marthus Beatty (21081), d Clockhouse (impt.) Barbara (60100), s d Nels Rust General Burger (F.H.B. 817).

II. (£5.)—GEORGE T. EATON, Thurston Hall, Framfield, Sussex, **Thurston Karel Verbena 2nd** (77008), born 20th May, 1923; s Kirkhill (impt.) Karel 2nd (4051), d Petygards Ciroa (26080), s d Petygards (impt.) Bles Albert (4231). (Last calf 7th January, 1926.)

III. (£2.)—G. HOLT THOMAS, Northdean House, Hughenden, High Wycombe, **Seaton Ellen**, born 12th March, 1919, bred by G. A. Francis, West Seaton, Arbroath, Forfarshire; s Dell Hollander (P.I. 7655), d Seaton Lady Turn 2nd (19258), s d Kirkhill John (1561). (Last calf 27th June, 1925).

† Silver Medal for best Bull in Class 104.

R.—ALBERT WRIGHTMAN, Middle Herrington, Sunderland, **Hedges Blesrigg Princess 4th**, born 20th January, 1920, bred by A. and J. Brown, Hedges Farm, St. Albans; s Petygards (impt.) Bles Albert (4321), d Hedges Princess of Hawkrigg 2nd (18064), s d Hedges Champion of Champions (271).

H.C.—A. BARCLAY, Manor Farm, Compton, Berks, **Terling Seabreeze 11th**, born 11th September, 1919, bred by Lord Rayleigh: s Sir Laenham (impt.) gysbrecht (4077), d Terling Seabreeze 7th (26797).

C.—ETHELBERT FURNESS, Hamels Park, Buntingford, Herts, **Hamels Christmas Daisv**, born 30th December, 1920; s Wychnor Bluestone (12983), d Thorpe Maud (31244), s d Reddown (impt.) Murk (4377). (Last calf 24th March, 1926).

CLASS 106.—*British Friesian Heifer, not in Milk, calved in 1924.*

[11 entries.]

I. (£10.)—The HACHE HERD, Muntham Home Farm, Findon, Worthing, **Hache Betty Egerton** (82390), born 26th September: s Hache Cergan Ulysses (P.I. 14165), d Teston Mary Egerton (49322), s d Clockhouse Rinlod (P.I. 7513).

II. (£5.)—G. HOLT THOMAS, Northdean House, Hughenden, **Northdean Princess May 2nd** (85528), born 22nd March: s Nor.hdean (impt. 1922) Marthus Beatty (21081), d Northdean Princess May (55622), s d Dell Hollander (P.I. 7655).

III. (£2.)—ALBERT WRIGHTMAN, Middle Herrington Farm, Sunderland, **Beverley Warrior's Gem**, born 16th April, bred by . Butterfield, Model Farm, Beverlev; s Hache Warrior (P.I. 20167), d Wressle Fatima (42826), s d Terling Pilot.

R.—GEORGE T. EATON, Thurston Hall, Framfield, Sussex, **Thurston Ynte Ellen** (88010), born 30th January; s Kingswood (impt.), Ynte (4047), d Thurston Ellen (49368), s d Kirkhill (impt.) Karel 2nd (4051).

V.H.C.—The HACHE HERD, Muntham Home Farm, Findon, Worthing, **Hache Billet Doux** (82392), born 5th September: s Hache Cergan Ulysses (P.I. 14165), d Hache Cerwitt Valentine (53090), s d Hedges Second Series (P.I. 6427).

H.C.—ETHELBERT FURNESS, Hamels Park, Buntingford, Herts, **Hamels Grace** (82574), born 20th February; s Seaton Roland (P.I. 10593), d Dennistoun Amy 5th (32910), s d Corsebar Adema (6119).

C.—HUBERT MARTINEAU, The Lodge, Holvport, Berks, **Northdean Melbloem 4th** (P.I. 85520), born 12th February, bred by G. Holt Thomas, North Dean, High Wycombe; s Dell Hollander (P.I. 7655), d Moordale (impt.) Meibloem (18708), s d Max (5899 F.R.S.).

CLASS 107.—*British Friesian Heifer, calved in 1925.* [15 entries.]

I (£10.)—The HACHE HERD, Muntham Home Farm, Findon, Worthing, **Hache Circe** (P.I.), born 10th February; s Hache Cerjan Ulysses (P.I. 14165), d Seaton Johanna (P.I. 30858), s d Dunninald (impt.) Cesar II. (3813).

II. (£5.)—G. HOLT THOMAS, Northdean House, Hughenden, **Northdean Melbloem 5th** (P.I.), born 1st January; s Northdean (impt. 1922) Marthus Beatty (21081), d Moordale (impt.) Meibloem (18708), s d Max (5899).

III. (£2).—**GEORGE T. EATON**, Thurston Hall, Framfield, Sussex, **Reddown Weipkje 4th P.I.**, born 25th February, bred by A. F. Chillingworth and Son, Reddown Farm, Highworth, Wiltshire: s Beccles Botermijn (P.I. 9031), d Ongar Weipkje 2nd (P.I. 41114), s d Wigginton Johan (P.I. 7165).

R.—**G. HOLT THOMAS**, Northdean House, Hughenden, **Northdean Meibloem 6th (P.I.)**, born 4th June: s Northdean (impt. 1922) Marthus Beatty (21081), d Northdean Meibloem 2nd (P.I. 64796), s d Terling (impt.) Vic Bertus.

V.H.C.—**C. W. H. GLOSSOP**, Lund, near Beverley, East Yorkshire, **Lund Beatty's Gonerll**, born 28th March: s Lund (impt. 1922) Rensche's Beatty (20863), d Blenheim Gladys (50762), s d Terling (impt.) Verwachting (4543).

H.C.—**GEORGE T. EATON**, Thurston Hall, Framfield, Sussex, **Thurston Karel Delphinium 3rd**, born 6th June: s Kirkhill (impt.) Karel 2nd (4051), d Dell Mabel (28226), s d Colton Vic Bram 2nd (6083).

C.—**Captain JOHN CHRISTIE**, M.C., Glyndebourne, Ringmer, Lewes, **Glyndebourne Elste**, born 27th January: s Glyndebourne (impt. 1922) Rikus (20111), d Moss Elsie 4th (40834), s d Moss (impt.) Adema 49th (4223).

CLASS 108.—British Friesian Bull, calved in or before 1923.

[5 entries.]

I. (£10.) **F. and T. NEAME**, The Offices, Macknade, Faversham, Kent, **Hache Cerbert Viking (17107)**, born 5th February, 1921, bred by The Hache Herd, Findon, Worthing, Sussex: s Hedges Second Series (6427), d Brooklands (impt.) Sietske 4th (17052), s d Bertus (5935 F.R.S.).

II. (£5.)—**GEORGE T. EATON**, Thurston Hall, Framfield, Sussex, **Thurston Karel President (21581)**, born 1st January, 1922: s Kirkhill (impt.) Karel 2nd (4051), d Foxlease Noll (17778), s d Wiggington Pippin (2235).

III. (£2).—**HUBERT MARTINEAU**, The Lodge, Holyport, Berks, **Holyport (impt. 1922), Renze 2nd (20401)**, born 2nd June, 1921, bred by the Hon. Joseph Baynes, C.M.G., Nelsurst, Natal, S. Africa: s Admiral Beatty (987 S.A.S.B.), d Renze 5th (2307 S.A.S.B.), s d Albert 2nd (2917 F.R.S.).

R.—**PERCIVAL BINGLEY**, Ongar School, Essex, **Chipping Ongar Regalla**, born 24th June, 1923: s Terling Marthus (P.I. 21533), d Terling Rotha 7th, s d Dunninald Haenyemairschaap.

CLASS 109.—British Friesian Bull, calved in 1924. [5 entries.]

I. (£10.)—**G. HOLT THOMAS**, Northdean House, Hughenden, **Northdean Meibloem's Beatty (P.I. 26679)**, born 5th May: s Northdean (impt. 1922) Marthus Beatty (21081), d Northdean Meibloem (P.I. 47738), s d Dell Hollander (P.I. 7655).

II. (£5.)—**ETHELBERT FURNESS**, Hamels Park, Buntingford, Herts, **Hamel's Froukje's Ronald (P.I. 25895)**, born 17th February: s Seaton Roland (P.I. 10593), d Hedges (impt.) Froukji 3rd (18050), s d Ceres (4497 F.R.S.).

III. (£2.)—**Captain JOHN CHRISTIE**, M.C., Glyndebourne, Ringmer, Lewes, **Glyndebourne Rikulysses (25785)**, born 5th June: s Hache (erjan Ulysses (14165), d Glyndebourne (impt. 1922) Karrika (61788), s d Rikus (1790 S.A.S.B.).

R.—**A. BARCLAY**, Manor Farm, Compton, Berks, **Compton Idol (25383)**, born 7th July: s Mapleton (impt.) Hilko (20907), d Penshurst Idol (35324), s d Naught Nan.

*Prizes awarded to British Friesian and Aberdeen-Angus xxxix
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CLASS 110.—British Friesian Bull, calved in 1925. [6 entries.]

I. (£10.)—GEORGIE T. EATON, Thurston Hall, Framfield, Sussex, **Thurston Karel** (P.I.), born 4th January; s Kirkhill (impt.) Karel 2nd (4051), d Dunningald Joyinrijpschaap (P.I. 38560), s d Dunningald (impt.) Cesar 2nd (3813).

II. (£5.)—C. W. H. GLOSSOP, Lund, near Beverley, East Yorkshire, **Lund Janke's Beatty** (P.I.), born 29th May; s Lund (impt. 1922) Rensche's Beatty (20863), d Bulkeley Killarney's Janke (P.I. 69084), s d Creskeld (impt. 1922), Chief (19709).

III. (£2.)—G. HOLT THOMAS, Northdean House, Hughendon, **Northdean Beatty** (P.I.), born 10th July; s Northdean (impt. 1922) Marthus Beatty (21081), d Mapleton (impt. 1922) Mina (64278), s d Blanwkranty Squire (F.H.B. 31).

R.—ALBERT WEIGHTMAN, Middle Herrington Farm, Sunderland, **Herrington Footprint**, born 29th March; s Brooklands Ynte (11145), d Herrington Bouquet (53586), s d Terling Dutchman (P.I. 5643).

C.—The **HACHE HERD**, Muntham Home Farm, Findon, Worthing, **Hache Cyclops** (P.I.), born 24th January; s Hache Cerjan Ulysses (P.I. 14165), d Hache Vaakji (P.I. 53094), s d Clockhouse King Akirin (P.I. 11321).

ABERDEEN-ANGUS.

(£20 towards the Prizes in the Aberdeen-Angus Classes were given by the English Aberdeen-Angus Cattle Association).

CLASS 111.—Cow or Heifer, in-Milk, calved before December 1st, 1923. [3 entries.]

I. (£10) and Champion† and Reserve for Champion*.—Alderman F. HAROLD TURNBULL, Lower House Farm, Llanwit Major, near Cardiff, **Black Bara**, born 24th January, 1922, bred by D. M. Allan, Ballintomb, Crantwon-on-Spey; s Evendale of Bleaton (48139), d Blackskin of Ballintomb (53609), s d George R. of Ballindalloch (30611). (Last calf 28th February, 1926).

II. (£5.)—CHARLES THOMAS SCOTT, Buckland Manor, Broadway, Worcester-shire, **Elluma 2nd of Buckland** (78214), born 2nd December, 1921; s Etrurian of Bleaton (41498), d Elluma 3rd (42443), s d Euthalito (21896). (Last calf 6th January, 1926).

CLASS 112.—Aberdeen Angus Heifer, calved on or after December 1st, 1923. [9 entries.]

I. (£10) and Reserve for Champion†.—J. J. CRIDLAN, Maisemore Park, Gloucester, **Evergreen 100th** (76098), born 16th December, 1923; s Eric 2nd of Maisemore (43525), d Evergreen 72nd (69149), s d George R. of Ballindalloch (30611).

* Given by the Aberdeen-Angus Cattle Society, a Silver Medal for the best Animal in Classes 111 to 115.

† Given by the English Aberdeen-Angus Cattle Association, a Silver Medal for the best Animal of opposite sex.

II. (£5.)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, **Elite 2nd of Basildon**, born 26th January, 1924; s Baron Eros of Bleaton (47225), d Evileric (58364), s d Junior Eric (34725).

III. (£2.)—CHARLES THOMAS SCOTT, Buckland Manor, Broadway, Worcestershire, **Evergreen 3rd of Buckland** (77328), born 15th May, 1924; s Rufus of Buckland (53693), d Evergreen 56th (66745), s d Idyll of Maisemore (36219).

R.—F. HAROLD TURNBULL, Lower House Farm, Llantwit Major, near Cardiff, **Kerella of Llantwit** (77571), born 27th March, 1924; s Proud Padre (51422), d Kindness Pride of Frampton (64083), s d Moose (34877).

V.H.C.—LESLIE K. OSMOND, Beelsby Hall, Grimsby, Lincs., **Gammer Jebel**, born 30th December, 1923, bred by Jas. Beddie, Banks, Strichen, Aberdeenshire; s Gaffer Eureka (48260), d Gammer Comely (59658), s d Demovin (32903).

H.C.—SIR JOHN LEIGH, Bart, M.P., Witley Park, Godalming, **Pride of Witley 3rd** (77112), born 11th January, 1924, bred by the late Viscount Pirrie; s Kodak of Gallovie (48575), d Pride 3rd of the Temple (50575), s d Prince of Rockliffe (28565).

CLASS 113.—Aberdeen Angus Heifer, calved on or after December 1st, 1924. [15 entries.]

I. (£10.)—LESLIE K. OSMOND, Beelsby Hall, Grimsby, Lincs., **Pinky Pride 14th of Duthil**, born 1st January, 1925, bred by John M. Allan, Easter Duthil, Carrbridge, N.B.; s Pundit of Moyness (49137), s Pinky Pride 7th of Duthil (57612), s d British Mint (31518).

II. (£5.)—J. J. CRIDLAN, Maisemore Park, Gloucester, **Blackbird 20th of Maisemore**, born 11th December, 1924; s Eric 2nd of Maisemore (43525), d Blackbird 13th of Maisemore (62034), s d Evercalm (33167).

III. (£2.)—F. HAROLD TURNBULL, Lower House Farm, Llantwit Major, near Cardiff, **Gwendolen of Llantwit** (79961), born 19th February, 1925; s Pranksome (53401), d Gwalmyra (67339), s d Everfoil of Maisemoor (41539).

R.—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, Berks, **Blacktoun of Basildon** (79296), born 6th February, 1925; s Prince Francis (51322), d Blacktoun of Moor Park (64486), s d Barton's Jack of Coolcower (37206).

V.H.C.—J. J. CRIDLAN, Maisemore Park, Gloucester, **Evergreen 106th** (78281), born 20th December, 1924; s Eric 2nd of Maisemore (43525), d Evergreen 61st (66750), s d Idyll of Maisemore (36219).

H.C.—SIR JOHN LEIGH, Bart., M.P., Witley Park, Godalming, **Witley Elegance** (78965), born 16th December, 1924; s Mulben Peerless (51074), d Elaine of Swaylands (56131), s d Eboniser of Swaylands (30334).

CLASS 114.—Aberdeen Angus Bull, calved before December 1st, 1924. [5 entries.]

I. (£10) and Champion* J. J. CRIDLAN, Maisemore Park, Gloucester, **Evader of Harviestoun** (52626), born 30th May, 1922, bred by J. E. Kerr, Harviestoun Castle, Stirling; s Euripus of Ballindalloch (43615), d Evergola of Harviestoun (56657), s d Prince of the Wassail (23751).

* Given by the Aberdeen-Angus Cattle Society, a Silver Medal for the best Animal in Classes 111 to 115.

II. (£5.)—Sir JOHN LEIGH, Bart., M.P., Witley Park, Godalming, **Mulben Peerless** (51074), born 28th January, 1921, bred by W. G. Macpherson, Mains of Mulben, Banffshire, N.B.; s Easdale of Harviestoun (41175), d Pride of Mulben 39th (52775), s d Black Bouncer (31482).

III. (£2.)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, **Balear** (56064), born 8th April, 1924, bred by Gordon R. Shiach of Rosebrae, Elgin; s Evermore of Ballindalloch (45873), d Blase (65781), s d Everard of Maisemore 2nd (31888).

R.—ROBERT BROWN MILLER, Newberries, Radlett, Herts, **Proud Mundel** (57946), born 10th February, 1924, bred by D. M. Allan, Ballintomb, Grantown-on-Spey; s Evendale of Bleaton (48139), d Pride of Comrie (51498), s d Blueblood of Ballindalloch (29807).

CLASS 115.—Aberdeen Angus Bull, calved on or after December 1st, 1924. [7entries.]

I. (£10.)—Sir JOHN LEIGH, Bart., M.P., Witley Park, Godalming, **Witley Prompter** (60555), born 29th December, 1924; s Mulben Peerless (51074), d Witley Princess 2nd (63225), s d Royal Prince of Brucklay (36931).

II. (£5.)—F. HAROLD TURNBULL, Lower House Farm, Llantwit Major, near Cardiff, **Black Ben of Llantwit** (58434), born 13th December, 1924; s Pranksome (53401), d Blackberry 3rd of Castlecraig (70441), s d Proud Eric of Aberlour (44516).

III. (£2.)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, Berks, **Idart 2nd of Basildon**, born 2nd May, 1925; s Prince Francis (51322), d Ideal 2nd of Basildon (70150), s d Edwin of Harviestoun (45527).

R.—G. MALCOLM, Little Court, Crockham Hill, Edenbridge, Kent, **Eudunda** (59216), born 12th December, 1924, bred by J. S. Grant; s Master Bummer (46346), d Egina (60959).

V.H.C.—H.R.H. The PRINCE OF WALES, K.G., Bellever Farm, Princetown, Devon, **Baron 3rd of Bellever** (58338), born 4th January, 1925; s Prince Proudfoot (55661), d Biotica (69849), s d Ebelum of Ballindalloch (43249).

CHALLENGE CUP.

GIVEN BY THE ENGLISH ABERDEEN-ANGUS CATTLE ASSOCIATION.

The Venning Cup for the Exhibitor gaining the most points in the Aberdeen-Angus Classes on the basis of 4 points for a first prize, 3 points for a second, 2 points for a third, 1 point for a Reserve, 2 points for a Championship, and 1 point for a Reserve Championship. The Cup to be won twice in succession or three times in all before becoming the property of the Exhibitor.

I.—J. J. CRIDLAN.

RED POLL.

(£20 towards the prizes in the Red Poll Classes were given by the Red Poll Cattle Society).

CLASS 116.—*Red Poll Cow or Heifer, in-Milk, calved before 1924.* [11 entries.]

I. (£10.)—Viscount FOLKESTONE, Estate Office, Longford Castle, Salisbury, **Longford Duck**, born 12th September, 1921, bred by the Earl of Radnor, Longford Castle, Salisbury; s Ashmoor Foreman (11520), d Longford Kingfisher (25764), s d Longford Monarch (10763).

II. (£5.)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, **Sudbourne Comfit**, born 10th August, 1918, bred by Kenneth Clarke, Sudbourne Hall, Offord, Suffolk; s Sudbourne Credit (10796), d Sudbourne Comfort (22355), s d Sudbourne Spicy (9751).

III. (£2.)—H.M. The KING, Sandringham, **Sudbourne Bolero** (26535), born 12th August, 1917, bred by the late Kenneth M. Clarke, Sudbourne, Suffolk; s Hermit's Ruby (10873), d Sudbourne Bolina (25383), s d Acton Crowfoot (9987). (Last calf 1st December, 1925).

R.—Major JOHN SEWELL COURTAULD, M.C., M.P., Burton Park, Petworth, Sussex, **Melton Mauve** (26363), born 5th December, 1917, bred by Lord Hastings, Melton Constable Park, Norfolk; s Honingham Astrologie 2nd (10589), d Melton Lucy (23627), s d Ashante (9890). (Last calf 19th February, 1926).

H.C.—S. W. COPLEY, Deacon's Hill, Elstree, Herts, **Duckyls Sorceress**, born 21st March, 1922, bred by James McKelvie, Duckyls, East Grinstead; s Duckyls Musician (11613), d Herontye Sorceress (28905), s d Colworth Sorcerer (10964). (Last calf 7th April, 1926).

C.—Mrs. R. M. FOOT, White Hill, Berkhamsted, Herts, **White Hill Molly**, born 26th August, 1919; s Sudbourne Hector (11224), d Sudbourne Molly Belle (23321), s d Acton Crowfoot (9987). (Last calf 27th April, 1926).

CLASS 117.—*Red Poll Heifer, calved in 1924.* [4 entries.]

I. (£10.)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, Berks, **Basildon Wonder Pear 2nd** (33537), born 15th March; s Basildon King (12519), d Colworth Wistful (28618), s d Plumstead Periscope (11188).

II. (£5.)—H.M. The KING, Sandringham, **Royal Primrose** (34679), born 16th March; s Easton Autocrat (11624), d Christmas Rose (25517), s d Boulge King's Bounty (10710).

III. (£2.)—Captain E. G. SPENCER CHURCHILL, Northwick Park, Blookley, Worcester, **Northwick Minnie 3rd**, born 8th September; s Boughton Master, d Minnie, s d Honingham Alcaster.

R.—Ditto, ditto, **Northwich Hawthorn 2nd**, born 13th December; s Boughton Master, d Stownpoland Hawthorn, s d Dallinghoo Dairyman.

CLASS 118.—Red Poll Heifer, calved in 1925. [4 entries.]

I. (£10.)—The Lady CHESHAM, Latimer, Chesham, **Sharnden Crimson Rose**, born 12th January, bred by Stanley M. Dennis, Sharnden, Mayfield, Sussex; s Colworth Primrose League (12564), d Sharnden Rosebud 2nd (31668), s d Ashmoor Yeseph (11254).

II. (£5.)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, **Basildon Rosebud 3rd**, born 27th January; s Hanningfield Conductor (12646), d Basildon Rosebud (28492), s d Sudbourne Miner (11492).

III. (£2.)—Mrs. R. M. FOOT, White Hill, Berkhamsted, Herts, **White Hill Megan 2nd**, born 14th February; s White Hill Aristocrat (12869), d White Hill Megan (30576), s d Sudbourne Hector (11224).

CLASS 119.—Red Poll Bull, calved in or before 1924. [6 entries.]

I. (£10.)—H.M. The KING, Sandringham, **Royal Crimson** (11763), born 28th October, 1919; s Sudbourne Crimson (11222), d Gressenhall Rubina (25094), s d Unique (10379).

II. (£5.)—Lieut.-Colonel C. E. TURNER, Old Down, Tockington, Glos., **Oldown Faultless**, born 6th May, 1923; s Hatton Falcon (H.B. No. 12320), d Shotford Tessa (H.B. No. 25876), s d Tessa (H.B. No. 15955).

III. (£2.)—The Lady CHESHAM, Latimer, Chesham, **Theobald's Duke**, born 20th May, 1923, bred by Admiral Sir Hedworth Meux, Theobalds Park, Waltham Cross; s Basildon Ringleader (11558), d Star Duchess 100th (25925), s d Davyson of Shotford (10555).

R.—Major JOHN SEWELL COURTAULD, M.C., M.P., Burton Park, Petworth, Sussex, **Burton Beaver** (12548), born 6th December, 1922; s Burton Bovis (11901), d Melton Mauve (26363), s d Honingham Astrologie 2nd (10589).

CLASS 120.—Red Poll Bull, calved in 1925. [4 entries.]

I. (£10.)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, **Basildon Conqueror**, born 27th March; s Hatton Fabulist (11985), d Sudbourne Comfit (25965), s d Sudbourne Credit (10796).

II. (£5.)—H.M. The KING, Sandringham, **Royal Verger** (Vol. 43), born 26th January; s Easton Autocrat (11624), d Christmas Rose (25517), s d Boulge King's Bounty (10710).

III. (£2.)—Mrs. R. M. FOOT, White Hill, Berkhamsted, Herts, **White Hill Aristocrat 2nd**, born 26th March; s White Hill Aristocrat (12869), d Sudbourne Mogul (25972), s d Acton Crowfoot (9987).

R.—Ditto, ditto, **White Hill Marquis 2nd**, born 28th March; s Knepp Marquis (12704), d White Hill Molly (28412), s d Sudbourne Hector (11224).

WELSH BLACK.

(£10 towards the Prizes in the Welsh Black Classes and the Bronze Medals were given by the Welsh Black Cattle Society, and £15 by Sir Geo. Meyrick, and animals must have been registered or eligible for registration in the Welsh Black Cattle Herd Book).

CLASS 121.—*Welsh Black Cow or Heifer, in-Milk, calved on or before November 30th, 1923. [6 entries.]*

I. (£10) and Reserve for Medal*—FRANK C. MINOPRIO, Haulfryn Home Farm, Abersoch, Carnarvonshire, **Puntygwair Primrose** (4127), born 22nd May, 1919, bred by T. W. Holland, Cwm Abersoch, Carnarvonshire; s Bachelllyn Goalkeeper (1112), d Molly VI. of Penrhyn (2927), s d Nanhoron Model (608). (Last calf 5th December, 1925).

II. (£5.)—SIR GEORGE AUGUSTUS ELIOTT TAPPS GERVIS MEYRICK, Bart., Bodorgan, Isle of Anglesey and Hinton Admiral, Christchurch, Hants, **Bodorgan Blodwen** (6930), born 17th January, 1923; s Penmyndd Caswallon (2062), d Bodelwa Shan III. (4158), s d Bodelwa Volunteer (1273). (Last calf 4th February, 1926).

III. (£2.)—Ditto, ditto, **Bodelwa Solly II**, born 4th December, 1920, bred by O. E. Hughes, Bodelwa, Tycross, Isle of Anglesey; s Bodelwa Volunteer (1273), d Bodelwa Mona Bach (3362), s d Penrhos Yswain (1017). (Last calf 21st January, 1926).

R.—LITTLE GREEN ESTATES CO., Hucksholt Farm, Harting, Petersfield, **Doli**, born 22nd January, 1917, bred by David Evans, Ty Cerrig Isaf, Bala; s Nanhoron General (607), d Penllyn Doli 2nd (1956).

CLASS 122.—*Welsh Black Heifer, calved on or between December 1st, 1923, and November 30th, 1924. [5 entries.]*

I. (£10) and Medal*—SIR GEORGE AUGUSTUS ELIOTT TAPPS GERVIS MEYRICK, Bart., Bodorgan, Isle of Anglesey, and Hinton Admiral, Christchurch, Hants, **Bodelwa Nella**, born 7th January, 1924; s Penmynydd Caswallon (2062), d Bodelwa Nora II. (5031), s d Bodelwa Volunteer (1273).

II. (£5.)—FRANK C. MINOPRIO, Haulfryn, Home Farm, Abersoch, Carnarvonshire, **Glanfraw Martha** (8018), born 18th February, 1924, bred by E. D. Williams, Tyddynhwrdd Tycoes, Anglesey; s Taliesin (1778), d Martha of Penrhyn (2888), s d Madryn Cawr (488).

III. (£2.)—LITTLE GREEN ESTATES CO., Hucksholt Farm, Harting, Petersfield, **Little Green Bessie Ddu**, born 8th May, 1924; s Little Green Jock, d Bessie Ddu (3271).

R.—SIR GEORGE AUGUSTUS ELIOTT TAPPS GERVIS MEYRICK, Bart., Bodorgan Isle of Anglesey, and Hinton Admiral, Christchurch, Hants, **Bodorgan Buddug**, born 1st May, 1924; s Bodelwa Colonel (2176), d Bodorgan Snowdrop, s d Bodelwa George (466).

* A Bronze Medal for the best exhibit in Classes 121 to 123.

CLASS 123.—Welsh Black Heifer, calved on or after December 1st, 1924. [5 entries.]

I. (£10.)—SIR GEORGE AUGUSTUS ELLIOTT TAPPS GERVIS MEYRICK, Bart., Bodorgan, Isle of Anglesey, and Hinton Admiral, Christchurch, Hants, **Bodelwa Nette**, born 18th January, 1925; s Neuadd Idris (2302), d Bodelwa Nora II. (5031), s d Bodelwa Volunteer (1273).

II. (£5.)—FRANK C. MINOPRIO, Haulfryn Home Farm, Abersoch, Carnarvonshire, **Haulfryn Martha**, born 2nd January, 1925; s Taliesin (1778), d Martha of Penrhyn (2388), s d Madryn Cawr (488).

III. (£2.)—The DINAM ESTATES CO. (Mr. David Davies, M.P.), Llandinam Hall Farm, Llandinam, Co. Montgomery, **Dinam Mwynig** (W.H.B. XIV), born 12th December, 1924; s Caradoc of Glascoed (2436), d Glascoed Mwynig 2nd (6077), s d David (1615).

R.—SIR GEORGE AUGUSTUS ELLIOTT TAPPS GERVIS MEYRICK, Bart., Bodorgan Isle of Anglesey, and Hinton Admiral, Christchurch, Hants, **Bodorgan Gwynet**, born 2nd December, 1924; s Bodelwa Ap. Volunteer (2175), d Bodorgan Coral II, s d Bodelwa George (466).

CLASS 124.—Welsh Black Bull, calved in 1923, 1924 or 1925. [6 entries.]

I. (£10) and Medalt—SIR GEORGE AUGUSTUS ELLIOTT TAPPS GERVIS MEYRICK, Bart., Bodorgan, Isle of Anglesey, and Hinton Admiral, Christchurch, Hants, **Snowdon Bran** (2645), born 11th July, 1923, bred by the University College of North Wales, College Farm, Aber, Bangor; s Madryn Laddie (1403), d Bryncian Nanw (4235), s d Bodelwa Volunteer (1273).

II. (£5) and Reserve for Medalt—FRANK C. MINOPRIO, Haulfryn Home Farm, Abersoch, Carnarvonshire, **Haulfryn King**, born 7th October, 1924; s Puntygwair King (2346), d Puntygwair Primrose (4127), s d Backellyn Goalkeeper (1112).

III. (£2).—The DINAM ESTATES CO. (Mr. David Davies, M.P.), Llandinam Hall Farm, Llandinam, Co. Montgomery, **Dinam Lancer** (2767), born 26th August, 1923; s Dinam Chief (1618), d Glasfryn Linda (4053), s d Glynllivon Captain (996).

R.—SIR GEORGE AUGUSTUS ELLIOTT TAPPS GERVIS MEYRICK, Bart., Bodorgan Isle of Anglesey, and Hinton Admiral, Christchurch, Hants, **Bodorgan Ring-leader** (2711), born 24th October, 1924; s Bodelwa Ap. Volunteer (2175), d Mair II. of Penrhyn (1831), s d Duke of Wellington (294).

AYRSHIRE.

(£15 towards the Prizes in the Ayrshire Classes were given by the English Committee of the Ayrshire Cattle Herd Book Society, and animals entered must have been registered or eligible for registration in the Society's Herd Book).

CLASS 125.—Ayrshire Cow, in-Milk, calved in or before 1922. [6 entries.]

I. (£10.)—OSCAR D. MAXTED, Upper Jarrington, Littlebourne, Canterbury, red and white, **Lockend Miss Daisy**, born 24th March, 1920, bred by W. Kirkland, Lockend, Coylton; s Lockend Marquis, d Lockend Daisy Bell, s d Lockend Red Prince. (Last calf 25th March, 1926).

† A Bronze Medal for the best exhibit in Class 124.

II. (£5).—A. BARCLAY, Manor Farm, Compton, Berks, brown and white, **Caigton Queen 10th** (83619), born 14th January, 1922, bred by J. B. Crawford; s **Hobslands Lucky Star** (19597), d **Caigton Queen 6th** (58078).

III. (£2).—The EARL OF EGLINTON AND WINTON, Horns Lodge, Tonbridge, Kent, brown and white, **Eglinton Mains Nora** (58033), born 5th April, 1918; s **Eglinton Mains Look Alive** (14319), d **Eglinton Mains Nettie** (34156), s d **Auchencloigh Look Again** (8815).

R.—Lieut.-Colonel R. E. CECIL, D.S.O., Passford House, Lymington, Hants, white and brown, **Passford Candlemas** (86830), born 3rd February, 1922, bred by J. Logan, Bargenoch, Coyton; s **Bargenoch Standard Bearer** (19758), d **Bargenoch May Blossom 3rd** (36990), s d **Bargenoch Magnificent** (9579).

CLASS 126.—Ayrshire Heifer, in-Milk, calved on or after January 1st, 1923. [5 entries.]

I. (£10).—The EARL OF EGLINTON AND WINTON, Horns Lodge, Tonbridge, Kent, white, brown on head, **Eglinton Juno** (95438), born 30th October, 1923; s **Eglinton Mains Snow King** (19734), d **Eglinton Mains Midsummer** (80963), s d **Howie's Hot Stuff** (17895).

II. (£5).—CLEMENT E. TORY, Newton Peveril, Sturminster Marshall, Wimborne, white and brown, **Chapmanton Lady Crossgates VII**, born 7th February, 1923, bred by W. C. Crawford, Chapmanton Castle, Douglas; s **Sandhill Pathfinder**, d **Chapmanton Lady Crossgates V**, s d **Holehouse Moonshine**. (Last calf 11th November, 1925).

III. (£2).—Lieut.-Colonel R. E. CECIL, D.S.O., Passford House, Lymington, Hants, **Passford Cherry Ripe** (90094), born 19th January, 1923; s **Eglinton Mains Snow King** (19734), d **Eglinton Mains Blossom** (68323), s d **Eglinton Mains Look Alive** (14319). (Last calf 7th August, 1925).

R.—R. SILLARS AND SON, Ickham Court, Canterbury, white and brown, **Linnhead Forget-me-not** (92475), born 28th March, 1923, bred by R. and W. Wallace, Linnhead, Sandilands; s **Harleyholm Sir Galahad** (21055), d **Harleyholm Forget-me-not** (67714), s d **Netherhall Sunstar** (13213).

CLASS 127.—Ayrshire Heifer, calved after September 1st, 1924. [8 entries.]

I. (£10).—A. BARCLAY, Manor Farm, Compton, Berks, brown and white, **Compton Wellplaced** (1569), born 23rd November, 1924; s **Relief Investment** (22510), d **Lakehead Jenny** (81049).

II. (£5).—The EARL OF EGLINTON AND WINTON, Horns Lodge, Tonbridge, Kent, white, brown cheeks, **Eglinton Prude** (2760), born 16th September, 1924; s **Eglinton Mains Snow King** (19734), d **Eglinton Maid of Honour** (87846), s d **Hobsland Royal Favourite** (18428).

III. (£2).—R. SILLARS AND SON, Ickham Court, Canterbury, white and brown, **Ickham Princess**, born 26th November, 1924; s **Chapmanton MacAudren** (18549), d **Edinglaw Princess II** (82956), s d **Sandhill Tempest** (17480).

R.—OSCAR D. MAXTED, Upper Jarrington, Littlebourne, Canterbury, Kent, red and white, **Jarrington Rosie 2nd**, born 6th October, 1924; s **Ickham Souvenir**, d **Rigg Rosie**, s d **Auckenbrain Dreadnought**.

BLUE ALBION.

(£22 13s. 4d. towards the Prizes in Classes 128 to 131 were given by the Blue Albion Cattle Society, and only animals entered or accepted for entry in the Herd Book were eligible to compete. Animals entered or accepted for entry in the Special and Supplementary Registers were not eligible.)

CLASS 128.—*Blue Albion Cow or Heifer, in-Milk, calved before January 1st, 1924.* [3 entries.]

I. (£10.)—A. T. GREENSLADE, Little Walden Park, Saffron Walden, Essex, blue roan, **Walden Princess**, born July, 1920, bred by Mr. Westley, Littlebury Saffron Walden.

II. (£5.)—RONALD A. HOLBECH, Farnborough Grange, Banbury, blue and white, **Saggy Chrysanthemum** (6826). (Last calf 4th December, 1925).

III. (£2.)—RANDOLPH TORY, Charisworth Manor, Blandford, Dorset, blue and white, **Blackmore Bertha**, born 1922, bred by E. Marriage, Horsfrith Park, Blackmore, Ingatstone, Essex. (Last calf 28th March, 1926).

CLASS 129.—*Blue Albion Heifer, calved in 1924.* [6 entries.]

I. (£10.)—ARNOLD GILLET, Ridgewood, Chorley, blue, roan and white, **Ridgwardine May**, born 14th May, 1924, bred by P. Dobson, Ridgwardine, Market Drayton; s Hurdlow Champion (61), d Ridgwardine Duchess (6410).

II. (£5.)—Lieut.-Colonel W. E. HARRISON, Wynchnor Park, Burton-on-Trent, blue, roan and white, **Barton Sweetheart** (9118), born 17th February, 1924; s Berton Jude (199), d Bradbourne Sweetheart (996).

III. (£2.)—RANDOLPH TORY, Charisworth Manor, Blandford, Dorset, blue and white, **Norton Marigold II**, born 4th May, 1924, bred by S. C. Swire, Lower Norton Wood Farm, Market Drayton; s Norton Premier, d Norton Marigold.

R.—CHAS. COUSINS, Stisted, Braintree, Essex, white and blue, **Stisted Bramble II**, born 12th April, 1924; s Destiny (47), d Stisted Bramble (7140).

V.H.C.—USHER AND SONS, Great Bradfords Farm, Braintree, blue and white, **Braintree Acacia 2nd**, born 31st March, 1924; s Peak Pilot, d Braintree Acacia.

CLASS 130.—*Blue Albion Heifer, calved in 1925.* [6 entries.]

I. (£10.)—Lieut.-Colonel W. E. HARRISON, Wychnor Park, Burton-on-Trent, light blue roan, **Ridgwardine Rarebud** (Vol. 6), born 13th January, bred by P. Dobson, Manor Farm, Ridgwardine, Market Drayton; s Elton Monarch (301), d Ridgwardine Amabel (6346).

II. (£5.)—ARNOLD GILLET, Ridgewood, Chorley, blue and white, **Ridgewood Vivian**, born 4th June; s Bradbourne Guardsman (451), d Bradbourne Vivian 2nd (11x70).

III. (£2.)—A. T. GREENSLADE, Little Walden Park, Saffron Walden, blue and white, **Walden Charming 3rd**, born 18th April; s Destiny, d Walden Charming.

R.—CHAS. COUSINS, Stisted, Braintree, Essex, blue and white, **Stisted Beauty III**, born 2nd January; s Norton Premier (351), d Stisted Beauty (7136).

V.H.C.—RONALD A. HOLBECH, Farnborough Grange, Banbury, blue and white, **Farnborough Iris** (88x6), born 14th July; s Dale Hero (45), d Willenhall Pansy (8028).

CLASS 131.—Blue Albion Bull, any age. [7 entries.]

I. (£10).—USHER AND SONS, Great Bradfords Farm, Baintree, blue, **Waterend Firstoval**, born 10th December, 1921, bred by C. H. Capon, Waterend House, Wheathampstead; s Bradbourne Goalkeeper, d Bradbourne Molly.

II. (£5).—JAMES D. BEAK, Maiden Bradley, Bath, blue roan, **Barton Don**, born 23rd December, 1924, bred by Lieut.-Colonel W. E. Harrison, O.B.E., Wychnor Park, Burton-on-Trent; s Barton Jude (199), d Bradbourne Dorothy (164).

III. (£2).—ARNOLD GILLET, Ridgewood Chorley, blue and white, **Elton Champion**, born 1st June, 1923, bred by J. W. Dakin, Elton, Winston Matlock; s Bank Champion (183), d Elton Clara (1222).

R.—RONALD A. HOLBECH, Farnborough Grange, Banbury, blue and white, **Farnborough Hero** (88x5), born 5th July, 1925; s Dale Hero (45), d Farnborough Fuschia (4172).

V.H.C.—RANDOLPH TORY, Charisworth Manor, Blandford, Dorset, china blue, **Blue Boy**, born 27th January, 1924; s Charisworth Peter, d Charisworth Dungleory II.

JERSEY.

CLASS 132.—Jersey Cow, in-Milk, calved before 1923. [26 entries.]

I. (£10) and Champion (£10)*—Mrs. EVELYN, Wotton House, near Dorking, n whole, **Wotton Queen of Clubs** (Vol. 35, p. 480), born 24th March, 1921; s Acer's Prince (13466), d Wotton Margaret's, s d Yeovil Lad (10833).

II. (£5) and Reserve for Champion*—R. BRUCE WARD, Godinton, Ashford, Kent, whole, **Miranda's Lass**, born 5th November, 1919; s Marionette's Lad (13351), d Fairlawne Miranda, s d Sir Toby (12154). (Last calf 23rd March, 1926).

III. (£2).—Mrs. OSWALD AMES, Durfold Hall, Dunsfold, Surrey, wh. light fawn, **Fairy Winks**, born 4th December, 1917, bred by J. P. Le Marquand, Jersey; s Fairy General (12609), d Financial Winks (22049), s d Financial Baron (4602). (Last calf 13th February, 1926).

R.—LAURENCE E. TUBBS, The Priory, Stevenage, Herts, broken, **Glenny**, born 26th June, 1918, bred by A. Le Reuy, St. Johns, Jersey; s Sleeper (13119), d Midnight Dream 2nd, s d Dairymaid's Champion (9886).

V.H.C.—GROSVENOR BERRY, Mount Bures, Bures, Suffolk, whole, **Postmistress**, born 23rd January, 1922; s Lord Blackberry, d Postage 2nd, s d Verdun. (Last calf 7th January, 1926).—Mrs. HARRY BRIGGS, The Grange, Northstoke, near Wallingford, whole, **Lily of the Valley**, born 26th October, 1917, bred by Mrs. Cottrell Dormer, Coomb Woodstock; s King Primrose (12674), d Golden Primrose (P.289), s d Rosy's Golden Champion (11532). (Last calf 2nd October, 1925).—GEORGE CROSS, Smarts Hill House, Penshurst, Kent, whole, **So Ladylike**, born 22nd May, 1917, bred by F. Le Masurier, Jersey; s Vale Lily's Lad, d So Lite.—Mrs. EVELYN, Wotton House, near Dorking, whole, **Justice IV**, born 22nd August, 1913, bred by Springate and Baker, Grouville, Jersey; s Prince Guide (4929), d Justice III, s d Bess Noble

* Given by the English Jersey Cattle Society for the best Cow or Heifer, entered or eligible for entry in the English Jersey Herd Book, competing in the Jersey Classes.

(10526).—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, whole, **Rapkyns Perfection**, born 19th April, 1921, bred by W. Duncan Knight, Rapkyns, Horsham; s Rapkyns Black Knight (13716), d Rapkyns Perfume. s d Structure (12773). (Last calf 3rd April, 1926).

H.C.—MRS. OSWALD AMES, Durfold Hall, Dunsfold, Surrey, whole silver fawn, **Polder's Lass** (29884 P.S.H.C.), born 23rd February, 1922, bred by John Hamon, St. Brelades, Jersey; s Cid's Inkerman (5673), d September Polder (22718), s d Aldan's Golden Sultan (12200). (Last calf 14th January, 1926).—H. CECIL PELLY, Kentwinds, Nutfield, Surrey, broken, **Wotton Boveau** (Vol. 33, p. 459), born 13th September, 1919, bred by Mrs. Evelyn, Wotton House, Dorking; s Boaz (12846), d Wotton Red Veau (Vol. 31, p. 420), s d Wotton Red Beau (12507). (Last calf 13th March, 1926).

C.—MRS. AUSTIN, Ellern Mede, Totteridge, Herts, whole, **Floris Princess**, born 12th February, 1921, bred by C. J. Richardson, Jersey; s Agnes Prince (5688), d Pallas Noble Floris (2406), s d Clarcencias Pallas Noble (5287). (Last calf 5th April, 1926).—MRS. HARRY BRIGGS, The Grange, Northstoke, near Wallingford, broken, **Volunteer's Remembrance 3rd**, born 24th July, 1922, bred by Ernest Mathews, Amersham; s Volunteer's Majesty (14159), d Council's Remembrance (Vol. 33, p. 296), s d Council (12886).—MRS. HAYES SADLER, Little Hallingbury Park, Bishops Stortford, whole, **Eastfield Lady**, born 5th October, 1919, bred by P. Quedart, St. Marys, Jersey; s Jersey Volunteer (12664), d Homespun (22813), s d Reindeer's Oxford (13724). (Last calf 11th March, 1926).—Ditto, ditto, whole, **Mademoiselle du Grand Jardin**, born 13th January, 1919, bred by W. C. Cruchy, Trinity, Jersey; s The Cid (12473), d Eunice 6th (21500), s d General Cowslip (10960). (Last calf 31st March, 1926).—THE EARL OF STRAFFORD, Wrotham Park, Barnet, Herts, whole, **Fauvie's Flower** (Vol. 37), born 7th July, 1921, bred by The Earl of Cavan; s Fauvie's Prince (13931), d Fontain's Bud (Vol. 33, p. 325), s d Doctor's Rose (13241). (Last calf 20th February, 1926).—SIR CHARLES WALSTON, Newton Hall, Newton, Cambridge, whole, **Newton Geraldine 4th** (2345, xxxvi, 432), born 4th March, 1922; s Myrtle's Oxford (14052), d Newton Geraldine 2nd (xxxiv, 334), s d Cutes Prince (13233). (Last calf 18th March, 1926).—R. BRUCE WARD, Godinton, Ashford, Kent, whole, **Progress**, born 4th July, 1918; s Marcher (13012), d Promise, s d Oxford Sunbeam (8650). (Last calf 18th February, 1926).

CLASS 133.—Jersey Cow or Heifer, in-Milk, calved in 1923.
[14 entries.]

I. (£10).—MRS. HAYES SADLER, Little Hallingbury Park, Bishop's Stortford, broken, **Golden Beech Daisy**, born 25th August, bred by J. E. Querree, Jersey; s Bowlind's Orford Sultan (5870), d Golden Beech Lassie (28100). (Last calf 28th March, 1926).

II. (£5).—MAJOR A. W. HUNTINGTON, D.S.O., Wellesbourne House, Warwick, whole fawn, **Violette's Oxford Fern**, born 8th April, bred by N. Du Fen, Trinity, Jersey; s Design's Fern Oxford, d Sybil's Violette. (Last calf 4th April, 1926).

III. (£2).—R. BRUCE WARD, Godinton, Ashford, Kent, whole, **Mantilla**, born 10th May; s Martinet (14695), d Mistress Lace, s d Masterman of Oaklands (13020).

R.—MRS. OSWALD AMES, Durfold Hall, Dunsfold, Surrey, whole grey, **Prudence Belle** (31537 P.S.H.C.), born 11th March, bred by Geo. Poch, Trinity, Jersey; s Prince Prudence 3rd, d Majestic's Pearl (24158), s d The Cid.

V.H.C.—Major A. W. HUNTINGTON, D.S.O., Wellesbourne House, Warwick, whole fawn, **Rosy Gold Thread**, born 19th February, bred by C. Gallichen, Trinity, Jersey; s Ida's Roseboy, d Oxford's Gold Thread, s d Fern's Oxford Noble.—Captain FREDERIC BONHIEB IMBERT-TERRY, Blue Hayes, Broad Clyst, Devon, whole, **Blue Hayes Meadow Vale Puff** (Vol. 34, p. 89), born 12th June; s Blue Hayes Red Candy (14204), d Meadow Vale Astor (Vol. 34, p. 382), s d Astor's Boy (14192). (Last calf 7th March, 1926).

H.C.—GROSVENOR BERRY, Mount Bures, Bures, Suffolk, whole, **Last of the Tendras**, born 20th January; s Bayleaf's Cid, d Tenda, s d Thorn's Aurelius 2nd. (Last calf, 2nd February, 1926).—LAURENCE E. TUBBS, The Priory, Stevenage, Herts, whole, **Stevenage Patience**, born 29th April; s Les Buttes Wonder (14006), d Pride, s d Queenie's Star (12114).

C.—MRS. EVELYN, Wotton House, near Dorking, n. whole, **Wotton Moonolla**, born 28th January; s Henbury Moonlight (13301), d Wotton Vinolia, s d Illustrious (10289).—Hon. ALEC P. HENDERSON, Windlesham Park, Surrey, whole, **Custard**, born 13th January, bred by Mrs. C. M. Harvey, East Burham Lodge, Slough, Bucks.; s Kingston Bridge (13995), d Cameo, s d Golden Veno (12953).—H. CECIL P'ELLY, Kentwins, Nutfield, Surrey, whole, **Pathos Sybil Again** (impt.), born 28th July, bred by E. Le Seelleur, St. Martin's, Jersey; s Sybils Gamboge 4th (14134), d Pathos (28232 P.S.C.), s d Masterman of Oaklands (13020). (Last calf 1st March, 1926).

CLASS 134.—Jersey Heifer, in-Milk, calved in or since 1924.

[11 entries.]

I. (£10.)—GEORGE CROSS, Smarts Hill House, Penshurst, Kent, whole, **Winsome**, born 19th February, 1924, bred by A. E. Renouf, Reading; s Broadland's Son, d Les Haie's Dorothy, s d Petunes Lad.

II. (£5.)—MRS. EVELYN, Wotton House, near Dorking, whole, **Nellie's Masterpiece**, born 25th March, 1924, bred by A. E. Renouf, Glenfarg, Reading; s Western Masterpiece (14822), d Marigold, s d Oaklands Sultan (13681).

III. (£2.)—R. BRUCE WARD, Godinton, Ashford, Kent, whole, **Lepidoptera**, born 3rd May, 1924; s Saint Louis (14778), d Gwetham Butterfly, s d Xenia's Sultan (13798).

R.—Ditto, ditto, nearly whole, **Chalice**, born 17th May, 1924; s Palatine (14894), d King-Cup, s d Pride of Kent (13707).

V.H.C.—MRS. HAYES SADLER, Little Hallingbury Park, Bishop's Stortford, broken, **Margot Munro**, born 27th March, 1924, bred by W. W. Egge, St. Peters, Jersey; s Bowlinas' Oxford Sultan (5870), d Margode (11304 F.S.C.). (Last calf 30th March, 1926).—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, whole, **Aldenham Gauntlet 2nd**, born 11th February, 1924; s Marston Grey Boy (14373), d Marigold, s d Christopher (12571).

H.C.—MRS. AUSTIN, Ellern Mede, Totteridge, Herts, whole, **Beauty's Blossom** born 5th May, 1924; s Feather Knights Gamboge (14278), d Raleighs (xxxv. 1053), s d Golden Ferns Dairyman (12640).

CLASS 135.—Jersey Bull, calved before 1924. [5 entries.]

I. (£10.)—R. BRUCE WARD, Godinton, Ashford, Kent, whole, **My Pilgrim**, born 7th May, 1922; s Pilgrim (13699), d Mistress Mine, s d Masterman of Oaklands (13020).

II. (£5.)—Mrs. OSWALD AMES, Durfold Hall, Dunsfold, Surrey, broken fawn, **Sybil's Warrior Prince**, born 30th May, 1922; s Reynard (13725), d Dainty Dawish (Vol. 33), s d Cuphea's Warrior (12893).

III. (£2.)—GEORGE CROSS, Smart's Hill House, Penshurst, Kent, whole, **Gloxalia's Penshurst Pilgrim**, born 18th May, 1923; s Canterbury Pilgrim, d Gloxalia II, s d King Capsicum.

R., V.H.C.—H. S. MOUNTAIN, Groombridge Place, Kent, broken, **Sir Laurel**, born 11th April, 1923, bred by R. Bruce Ward, Godinton, Ashford; s St. Louis (14778), d Evergreen xxi-273, s d Catillon's Prince (11639).

H.C.—LAURENCE E. TUBBS, The Priory, Stevenage, Herts, whole, **Marston Rambler**, born 14th November, 1922, bred by W. Wilkins, Longmarston, Tring; s Observer (13680), d Queen of La Fosse, s d General Cowslip (10960).

CLASS 136.—Jersey Bull, calved in 1924. [7 entries.]

I. (£10.)—JOHN WISEMAN, Rolls Park Farm, Chigwell, Essex, dark brown, **Light of Foot's Volunteer**, born 5th July, bred by The States Experiment Farm, St. Peter, Jersey; s You'll Do's Volunteer (5920), d Light of Foot (25529), s d Commander in Chief (5418 H.C.).

II. (£5.)—R. BRUCE WARD, Godinton, Ashford, Kent, whole, **Sir Lovat**, born 13th March; s Saint Louis, d Privet, s d Prometheus (13391).

III. (£2.)—GEORGE CROSS, Smart's Hill House, Penshurst, Kent, whole, **Penshurst Coeur de Lion**, born 19th April; s Penshurst Yellow Prince, d Gloxalia II, s d King Capsicum.

R., H.C.—Major A. W. HUNTINGTON, D.S.O., Wellesbourne House, Warwick, broken, **St. Patrick**, born 17th March, bred by Wm. Ph. Jean, St. Lawrence, Jersey; s Pedro, d Sultan's Countess.

C.—Hon. ALEC P. HENDERSON, Windlesham Park, Surrey, whole, **Danbury Majorica**, born 29th June, bred by Brig.-General J. T. Wigan, C.B., Danbury Park, Essex; s Wotton Vervains Moonlight (14505), d Mitylene, s d Topsy's Noble (10116).—JAS. J. HOYLE, Chase Cottage Farm, Potters Bars, whole, **Freeman**, born 4th March, bred by Mrs. J. E. Le Rendu, St. Clement, Jersey; s Observer (13682), d Frill (20019), s d Conqueror (11266).—Lady A. H. YULE, Hanstead House, Bricket Wood, St. Albans, whole, **Hanstead Politician**, born 1st September; s Anthony, d Polypi VI (24150, H.C. Herd Book Vol. 33), s d Zanzibars Bright Prince.

CLASS 137.—Jersey Bull, calved in 1925. [11 entries.]

I. (£10.)—R. BRUCE WARD, Godinton, Ashford, Kent, whole, **Sir Peacock**, born 25th March; s Saint Louis (14778), d Elvetham Butterfly, s d Xenia's Sultan (13798).

II. (£5.)—Mrs. HARRY BRIGGS, The Grange, North Stoke, near Wallingford, whole, **North Stoke's Beechnut**, born 16th April, bred by A. Sale, Aston Rowfont, Oxon; s Lenton Rupert (14668), d Beechwood Success, s d General Cowslip (10960).

III. (£2.)—Captain F. B. IMBERT-TERRY, Blue Hayes, Broad Clyst, Devon, whole, **Blue Hayes Mouser**, born 6th June; s Hunstrete Tuneful Lad (14322), d Blue Hayes Cat (Vol. xxxi, p. 234), s d Hotspur (12657).

R., V.H.C.—H. S. MOUNTAIN, Groombridge Place, Kent, whole, **Groombridge Don Silver**, born 1st January: s Silver Pop (14459), d Cowslip's Darling (xxxiii, 278), s d General Cowslip.

V.H.C.—R. BRUCE WARD, Godinton, Ashford, Kent, whole, **Founder**, born 11th June: s Marionette's Fox (13655), d Moana's Opal, s d da Sente's Prince (13320).

H.C.—Mrs. OSWALD AMES, Durfold Hall, Dunsfold, Surrey, whole grey, **Cid's Oxford Jap**, born 5th January: s Clair Val Stock (5997), d Majestic's Pearl, s d The Cid.

C.—Mrs. EVELYN, Wotton House, near Dorking, nearly whole, **Wotton King of Clubs**, born 7th April: s Wotton Airman II (14502), d Wotton Queen of Clubs, s d Acer's Prince (13466).

GUERNSEY.

(£20 towards the Prizes in the Guernsey Classes were given by the English Guernsey Cattle Society).

CLASS 138.—*Guernsey Cow, in-Milk, calved before 1923.*

[18 entries.]

I. (£10.)—Sir JAMES REMNANT, Bart., M.P., The Grange, Hare Hatch, near Twyford, Berks, fawn and white, **Dene Treacle II**, born 31st March, 1919: s Sequel's Victor 2nd (3591), d Dene Treacle (11248), s d Dene Dandy (2720).

II. (£5.)—The Viscount LASCELLES, K.G., Goldsborough Hall, Knaresborough, fawn and white, **Nellie Lubens Sequel IV**, born 23rd February, 1921, bred by John R. Herivel, High Street, Alderney: s Shrapnel of Balmoral: d Nellie III of the Lubin. (Last calf 1st April, 1926).

III. (£2.)—Sir ERIC HAMBRO, K.B.E., Milton Abbey, Blandford, Dorset, fawn and white, **Hayes Lola 1st** (12616), born 26th April, 1917, bred by the late Sir Everard Hambro, K.C.V.O., Hayes, Otten, Kent: s Hayes Kitchener (2971), d Lola of Baston (11514). (Last calf 6th January, 1926).

R.—Messrs. C. NORMAN, Moor Place, Much Hadham, Herts, orange and white, **Hadham Snowdrop** (15409), born 25th April, 1920: s Lands End Prince (3742), d Bosistow Snowdrop (13303), s d Glebe Aebo (3136).

H.C.—W. A. ARGENT, Ghyll Manor, Ruspur, Sussex, fawn and white, **Ranunculus of Goodnestone VIII**, born 3rd July, 1919, bred by Lord Fitz-Walter, Goodnestone Park, Canterbury: s Sequel's Delight II, d Ranunculus of Goodstone, s d Governor of the Barras.—EDWARD CHRISTIAN, Otterbourne House, near Winchester, Hants, fawn and white, **Dene Mald of Wargrave** (14224), born 25th January, 1919, bred by Sir J. Remnant, Hare Hatch, Twyford, Berks: s Sequel's Victor 2nd (3591), d Lady No. 97 (8596), s d Goldseeker (7335). (Last calf 15th January, 1926).—CLAUDE C. EMPSON, Rectory Farm, Borough Green, Newmarket, Cambs., fawn and white, **Merton Collinette** (18053), born 9th June, 1922, bred by E. Leaman, Coin Colin, St. Martin's, Guernsey: s Hunguets de Bas Hope (4519), d Colinette of Coin Colin (5208).—The Right Hon. Sir FREDERICK HALSEY, Bart., Gaddesden Place, Hemel Hempstead, fawn and white, **Rosey of Goodnestone 12th** (16954), born 13th October, 1921, bred by Lord Fitz-Walter, Goodnestone Park, Canterbury, Kent: s Sequel's Slogan 2nd (4311), d Rosey of Goodnestone 3rd (13040), s d Governor of the Barras (2966).—E. G. MACANDREW, Pallinghurst, Baynards, Horsham, fawn and white, **Grasmere Apple Blossom**, born 26th

August, 1922, bred by Mr. Parsons, Hurstpierpoint, Sussex: s Valentines Honours Heir, d Holly Apple Blossom, s d Holly Oliver. (Last calf 25th April, 1926).

CLASS 139.—Guernsey Heifer, in-Milk, calved in 1923. [11 entries.]

I. (£10.)—A. CHESTER BEATTY, Calehill Park, Little Chart, Kent, fawn and white, **Calehill Peaceful** (18659), born 14th February: s Clara's Slogan (4518 P.S.), d Peace Poundstock (18145), s d Lenore's Sequel of Vimiera (4247). (Last calf 23rd July, 1925).

II. (£5.)—The Misses HARGREAVES, Nazeing Park, Essex, fawn and white, **Nazeing Marigold 2nd** (19751), born 11th November; s Hunguets de Bas Hope 3rd (4849), d Nazeing Marigold (18118), s d Durrington Rose King des Houards (3685).

III. (£2.)—The Viscount LASCELLES, K.G., Goldsborough Hall, Knaresborough, fawn and white, **Goldsborough Lady I**, born 23rd January; d Trequean Lady II. (Last calf 5th April, 1926).

R.—Messrs. C. NORMAN, Moor Place, Much Hadham, Herts, fawn and white, **Hadham Marigold I** (19157), born 4th June; s Downe Star of Honeymoon (3909), d Hadham Marigold IV (16540), s d Ladock Prince Albert (3550).

V.H.C.—EDWARD CHRISTIAN, Otterbourne House, near Winchester, Hants, fawn and white, **Betty of Petit Bot Valley** (21014), born 8th December, 1923, bred by F. Breban, Les Nicollis, St. Martin's, Guernsey: s May Rose Lad the Spurs (4575), d Brebans Betty VI, s d Chunys Honour (4350).

H.C.—Major J. H. DRAKE, The Manor House, Abbots Langley, Herts, fawn and white, **Ladock Jessica** (19484), born 20th July, bred by the Ven. Archdeacon Raffles-Flint, Vansawsan, Ladock, Cornwall: s Glencairn Daisy's Sequel (4201), d Ladock Portia (14514), s d Ladock Patriot (3164). (Last calf 1st January, 1926).

C.—ERIC H. ROSE, Wytham Abbey, Oxford, fawn and white, **Hayes Flossie 2nd** (18894), born 28th February, bred by Sir E. A. Hambro, Hayes Place, Hayes, Kent; s Downe Valentine's Honour of Vimiera (3913), d Flossie of the Lubin 3rd (15347), s d Nelson of the Cacheliere (174 P.S., R.A.A.S.).

CLASS 140.—Guernsey Heifer, calved in 1924. [7 entries.]

I. (£10.)—Sir ERIC HAMBRO, K.B.E., Milton Abbey, Blandford, Dorset, fawn and white, **Hayes Lady Beauty** (20770), born 1st January, bred by the late Sir Everard Hambro, K.C.V.O., Hayes Place, Kent; s Downe Warblers Dream 4th (4773), d Lady Beauty 3rd of the Brequite (17952), s d Golden Noble 2nd of the Brequite (3618).

II. (£5.)—A CHESTER BEATTY, Calehill Park, Little Chart, Kent, fawn and white, **Calehill Irene** (20086), born 22nd January; s Murrell Golden Cheer (3993), d Armistice of Duvaux (17260), s d Sequel's Mascot (3301 F.S.).

III. (£2.)—W. DUNKELS, Fernhill Park, Windsor Forest, fawn and white, **Fernhill Starlight** (20224), born 8th March; s Munell Desmond (4263), d Starlight Broom (15836), s d Hurst Freda's Jewel (3543).

R.—E. G. MACANDREW, Pallinghurst, Baynards, Horsham, fawn and white, **Ivella Bud**, born 22nd February; s Poltimore President, d Flower of the Frie Baton, s d Ivy's Emblem. (Last calf 20th April, 1926).

H.C.—Sir JAMES REMNANT, Bart, M.P., The Grange, Hare Hatch, near Twyford, Berks, fawn and white, **Dene Snowflake III**, born 28th May; s Royalist of Talbot Valley (4921), d Noble Snowflake (16811), s d Noble Boy (3976 P.S.).

C.—Sir BRODIE H. HENDERSON, K.C.M.G., C.B., Epping House Farm, Lower Berkhamstead, fawn and white, **Bayford Jewell**, born 8th July; s Bickleigh Chieftian 4th (4690), d Bayford Gem, s d Golden Noble of Les Grantes (4207).

CLASS 141.—Guernsey Heifer, calved in 1925. [22 entries.]

I. (£10.)—Lord POLTIMORE, Court Hall, North Molton, North Devon, fawn and white, **Poltimore Mimosa** (22708), born 6th July; s Pengelly Boy's Sequel (4893), d Poltimore Myrtle (19240), s d Royal of Beaulieu (4922).

II. (£5.)—E. G. MACANDREW, Pallinghurst, Baynards, Horsham, fawn and white, **Ivelle Belinda**, born 26th April; s Valentine's Honour's Heir, d Ivelle Banter, s d Puddington Heirloom.

III. (£2.)—WALTER DUNKELS, Fernhill Park, Windsor Forest, fawn and white, **Fernhill Fleur of Vimlera** (21986), born 30th January; s Downe Valentines Honour of Vimiera (8913), d Downe Fleur of Vimiera (14281), s d Valentines Honour of the Passee (3826 P.S.).

R.—Sir ERIC HAMBRO, K.B.E., Milton Abbey, Blandford, Dorset, fawn and white, **Milton Rosey 11th** (22479), born 16th April; s Haif's Goldfinder 1st (5310), d Milton Rosey 5th (16764), s d Haif's Pride.

V.H.C.—A. CHESTER BEATTY, Calehill Park, Little Chart, Kent, fawn and white, **Calehill Tea Leaf** (22112), born 7th April; s Calehill Alladene (4709), d Calehill Rose Leaf (17445), s d Chance of Mainey (4424).

H.C.—W. A. ARGENT, Ghyll Rusper, Sussex, fawn and white, **Wintergreen of Rusper**, born 23rd February; s Honour of the Cloture, d Wintergreen of Goodnestone 2nd, s d Sequel's Delight.—Sir W. H. N. GOSCHEN, K.B.E., Durrington House, Harlow, Essex, fawn and white, **Durrington Charmer 8th**, born 17th June; s Golie's Durrington Hope, d Durrington Charmer 5th, s d Archer of the Poncez.

C.—WALTER DUNKELS, Fernhill Park, Windsor Forest, fawn and white, **Hindhead Poppy 2nd** (22450), born 10th June, bred by J. Body, Hindhead, Surrey; s Lynchmere Lord Roberts 15th (3982), d Hindhead Polly (16602), s d Slogan de Bon Espois (4317).—CLAUDE C. EMPSON, Rectory Farm, Borough Green, Newmarket, Cambs., fawn and white, **Merton Collette II**, born 14th May; s Pewsham Misty Knight (4273), d Merton Collette (18053), s d Hugnets De Bas Hope (4519).—The Viscount LASCELLES, K.G., Goldsborough Hall, Knaresborough, fawn and white, **Goldsborough Lady II**, born 30th April, s Goldsborough Golden Prince, d Goldsborough Lady I.

CLASS 142.—Guernsey Bull, calved in 1922 or 1923. [8 entries.]

I. (£10.)—Sir W. H. N. GOSCHEN, K.B.E., Durrington House, Harlow, Essex, fawn and white, **Golie's Durrington Hope**, born 25th May, 1923; s Hunguete Des Bas Hope 2nd, d Dene Golie, s d Wickham May King.

II. (£5.)—W. A. ARGENT, Ghyll Manor, Rusper, Sussex, fawn and white, **Honour of the Cloture**, born 19th January, 1923, bred by N. Ogier, Cloture Cottage, Castel, Guernsey; s Nellie's Ideal, d Primrose of the Cloture, s d Governor of Liley Vale.

III. (£2).—A. CHESTER BEATTY, Calehill Park, Little Chart, Kent, fawn and white, **Calehill Nulli Sæundus** (5302), born 27th November, 1923; s Sequel's Slogan (4933), d Golden Queen of Goodnestone (12085), s d Golden Casket 3rd (2586).

R.—Mrs. EVELYN RICH, Wretham Hall, Thetford, Norfolk, fawn and white, **Downe Warbler's Dream 8th** (5215), born 23rd July, 1923, bred by D. C. Haldeman, Hayes, Kent; s Warbler's Dream (3249), d Downe Daylo (14280), s d Sailor Lad of the Fontaines (3725).

H.C.—EDWARD CHRISTIAN, Otterbourne House, near Winchester, Hants, fawn, little white, **Prince II of the Simons** (5618), born 13th November, 1923, bred by J. B. Fostenin, St. Peters, Guernsey; s May Rose Lad of the Spurs (4575), d Beauty IV of the Simons (14762), s d Polly's Pride (2974).—Messrs. C. NORMAN, Moor Place, Much Hadham, Herts, fawn and white, **Ladock Prince George** (4855), born 23rd January, 1922, bred by the late The Ven. Archdeacon Raffles Flint, Nansausan, Ladock, Cornwall; s Lynchmere Pride IV (3752), d Ladock Princess Flavia (14515), s d The Abbot (3224).

C.—Miss EDITH MARJORIE ATTLEE, Dormston, Inkberrow, Worcs., fawn and little white, **Rose Lad of Goodnestone 7th** (5232), born 30th August, 1923, bred by Lord FitzWalter, Goodnestone Park, Canterbury; s Rose Lad of Goodnestone (3162), d Lady Muriel 2nd (12899), s d Imp. Governor of the Barras (2966, 3433 P.S.).

CLASS 143.—Guernsey Bull, calved in 1924. [5 entries.]

I. (£10).—R. MALCOLM, Walton Manor, Tadworth, fawn and white, **Kingswood Noble** (5622), born 15th August, bred by H. C. Hambro, Garden Farm, Kingswood; s Beauty's Honour (4687), d Beauty of Piece's Lodge (17294), s d Noble Boy (3976 P.S.).

II. (£5).—W. A. ARGENT, Ghyll Manor, Ruser, Sussex, fawn and white, **Ghyll Valentine's Honour**, born 23rd July; s Downe Valentine's Honour of Vimiera, d Downe Daylo, s d Sailor Lad of the Fontaines.

III. (£2).—A. CHESTER BEATTY, Calehill Park, Little Chart, Kent, fawn and white, **Calehill Slogum** (5645), born 18th September; s Sequel's Slogan (4933), d Addington Begum 4th (14989), s d Addington Lord Roberts (3267).

R.—EDWARD CHRISTIAN, Otterbourne House, near Winchester, Hants, dark fawn and white, **Victor of Les Grantes** (5813), born 17th May, bred by J. Le Page, Les Grantes, Casel, Guernsey; s Cyrenes Lady Rouvet (4252), d Tackler of Brickfield (5285), s d Governor of Chene (1297).

H.C.—The Right Hon. Sir FREDERICK HALSEY, Bart., Gaddesden Place, Hemel Hempstead, Herts, fawn and white, **Gaddesden Honour 2nd** (5444), born 12th April; s Governor Quin des Ruettes (4501), d Gaddesden Trusty 2nd (13534), s d Milton Hubert 2nd (3190).

CLASS 144.—Guernsey Bull, calved in 1925. [14 entries]

I. (£10).—W. DUNKELS, Fernhill Park, Windsor Forest, fawn, **Hindhead Robert 6th** (5847), born 12th April, bred by J. Body, Hindhead, Surrey; s Lynchmere Lord Roberts 15th (3982), d Polly of the Isles of Goodnestone 3rd (14671), s d Rose Lad of Goodnestone (3163).

II. (£5.)—Sir W. H. N. GOSCHEN, K.B.E., Durrington House, Harlow, Essex, red and little white, **Durrington's Beautys Sequel 2nd** (6036), born 20th July; s Dene Topsy's Sequel (4447), d Durrington Beauty 2nd (13459), s d Citron's Jewel (3097).

III. (£2.)—Sir JAMES REMNANT, Bart., M.P., The Grange, Hare Hatch, near Twyford, Berks, fawn and white, **Dene Governor** (5799), born 12th February; s Dene Western Star (5553), d Dene Lady of the Lohiers (16353), s d Raymond of Carteret II (3783).

R.—Mrs. EVELYN RICH, Wretham Hall, Thetford, Norfolk, fawn and white, **Sliverstead Prince Charming** (6122), born 2nd September; s Downe Warbler's Dream (5215), d Ma Charmante 13th (12935), s d Chatford Jewel (impt.) (2717).

H.C.—CLAUDE C. EMPSON, Rectory Farm, Borough Green, Newmarket, Cambs., dark fawn and white, **Merton Rose Prince**, born 25th May; s Pewsham Misty Knight (4273), d Merton Rose-Point (18065), s d Pave's Lad (4349 P.S.).—The Right Hon. Sir FREDERICK HALSEY, Bart., Gaddesden Place, Hemel Hempstead, Herts, fawn and white, **Tizette's Honour** (6263), born 18th January, bred by J. A. des Garis, St. Saviours, Guernsey; s Valentine's Honour 2nd (4521 P.S.), d Long Fria Lizette V (15490 P.S.), s d Gay Boy of Paysams (3384 P.S.).

KERRY.

(£15 of the Prizes in Classes 145 to £48 and the Challenge Cup were given by the British Kerry Cattle Society).

CLASS 145.—Kerry Cow or Heifer, in-Milk, calved on or before August 31st, 1923. [5 entries.]

I. (£10) and Challenge Cup*—KERRY ESTATES, LTD., Warren House Farm, Stanmore, Middlesex, born 18th March, 1921, bred by The Knight of Kerry, Valencia Island, Ireland; s Czar of Carton, d Sheen 16th, s d Kilmorna Lord 6th.

II. (£5.)—LAURENCE CURRIE, Minley Manor, Farnborough, Hants, **Minley Miranda**, born 10th December, 1921; s O.P.H. Watersheen Ratmore (454), d Minley Mirabel (2715), s d Valencia Lord 3rd (370).

CLASS 146.—Kerry Heifer, not in milk, calved between August 31st, 1923, and September 1st, 1924. [5 entries.]

I. (£10) and Reserve for Challenge Cup*—Captain NELSON ZAMBRA, M.C., and C. WILLIAMSON MILNE, West Tisted Manor, Ropley, Hants, **Hattingley Calceolaria**, born 7th July, 1924; s Valencia Samson (535), d Hattingley Honesty 2nd (2671).

II. (£5.)—LAURENCE CURRIE, Minley Manor, Farnborough, Hants, **Minley Bessie**, born 9th February, 1924; s Minley Mikado (514), d Minley Miranda (3625), s d Watersheen Ratmore (454).

* The "Fitzgerald" Perpetual Silver Challenge Cup, value £10 10s. for the best Animal exhibited in the Kerry Classes.

III. (£2.)—KERRY ESTATES, LTD., Warren House Farm, Stanmore, Middlesex
Valencia Ellen, born 5th April, 1924 ; s Valencia Peter, d Valencia Eileen 3rd,
s d Valencia Lord 1st.

R.—Lady FITZGERALD, Buckland House, Faringdon, Berks, **Minley Curley**
(3944), born 7th May, 1924, bred by Laurence Currie, Minley Manor, Farn-
borough, Hants ; s Minley Major (513), d Minley Tabbie (1830), s d Minley
Rover (287).

CLASS 147.—Kerry Bull, calved on or before August 31st, 1924.
[3 entries.]

I. (£10.)—Lady FITZGERALD, Buckland House, Faringdon, Berks, **Buckland Duke** (681), born 14th June, 1924 ; s Buckland Viking (470), d Buckland Strawberry (2104), s d Raspberry Duke (331).

II. (£5.)—KERRY ESTATES, LTD., Warren House Farm, Stanmore, Middlesex,
Valencia Sammy, born 25th February, 1923 ; s Valencia Czar, d Valencia Stella, s d Valencia Cupbearer.

III. (£2.)—LAURENCE CURRIE, Minley Manor, Farnborough, Hants, **Hattinley Beano**, born 15th December, 1923, bred by Captain N. Zambra, West Tisted Manor, Ropley, Hants ; s Valencia Samson (535), d Valencia Recorder (2802).
s d Valencia Chieftain (806).

CLASS 148.—Kerry Bull, calved between August 31st, 1924, and September 1st, 1925. [3 entries.]

I. (£10.)—Captain NELSON ZAMBRA, M.C., and C. WILLIAMSON MILNE, West Tisted Manor, Ropley, Hants, **Hattingley Daniel**, born 10th March, 1925 ; s Hattingley Archibald (646), d Hattingley Hazy (3389), s d Minley Alexander (479).

II. (£5.)—Lady FITZGERALD, Buckland House, Faringdon, Berks, **Buckland Arthur** (680), born 1st April, 1925 ; s Hattingley Arthur (588), d Minley Mildred (3946), s d O.P.H. Watersheen Ratmore (454).

DEXTER.

CLASS 149.—Dexter Cow or Heifer, in-Milk, calved in or before 1923.
[6 entries.]

I. (£10.)—Mrs. CONSTANCE MARY LINS CALVERT, Banwell Castle, Banwell, Somerset, red, **Ladybird** (3166), born 4th March, 1920, bred by the Rev. W. W. Joyce, Charles, Devon ; s Charlemange (604), d Tortoiseshell (2442). (Last calf 22nd February, 1926).

II. (£5) and Special *—THEO. A. STEPHENS, Frensham Manor, near Farnham, Surrey, black, **Hookstile Lady Macbeth** (2959), born 30th June, 1920 ; s Summerhill George (685), d Gamma (2108), s d Cowbridge General (385). (Last calf 5th April, 1926).

* Given by the Dexter Cattle Society, the Devonshire Challenge Cup, for the best Animal in Classes 149 to 152, bred by Exhibitor, and entered in or eligible for the Dexter Herd Book. The Cup to be won by the same Exhibitor with different animals three years in succession before becoming his absolute property.

III. (£2).—Mrs. HUMPHREY R. PELLY, Lyndsays Farm, Ingatestone, Essex, red, **Woodland Ranunculus**, born 15th February, 1923, bred by A. Miller, Woodlands, Norwich; s Brockenhurst Rufus 2nd (695), d Fryerning Buttercup (2177), s d Fryerning Snowstorm (501).

R.—THEO. A. STEPHENS, Frensham Manor, near Farnham, Surrey, red, **Just Found of Hookstile** (2969), born 2nd March, 1919. (Last calf 10th September, 1925).

CLASS 150.—Dexter Heifer, calved in 1924 or 1925. [14 entries.]

I. (£10) and Reserve for Special*—Colonel W. O. GIBBS, Home Farm, Barrow Gurney, black, **Barrow Miss Kelly XI**, born 2nd June, 1924; s Pugnani (756), d Barrow Miss Kelly 10th (3390), s d Barrow Mr. Murphy 2nd.

II. (£5).—Mrs. RICHARD MAGOR, Springfield Lyons, Chelmsford, red, **Woodland Rambler** (3525), born 12th May, 1924, bred by Thomas Gloyer, C.B.E.; s Brockenhurst Rufus 2nd (695), d Woodland Scramble (3377), s d Fillongley Falcon (656).

III. (£2).—THEO. A. STEPHENS, Frensham Manor, near Farnham, Surrey, black, **Wyeford Gort Daisy** (3711), born 24th March, 1925, bred by Mrs. Fox Pitt; s Grinstead Charlie (836), d Gort Daisy 5th (2495), s d Gort Tony (548).

R.—HENRY G. JONES, Downford, Mayfield, Sussex, black, **Downford Doreen**, born 29th March, 1925; s Downford Dan (827), d Eta 2nd (3284), s d Grinstead Champion (632).

V.H.C. Lady KATHLEEN HARE, Brockenhurst Park, Brockenhurst, Hants, black, **Brockenhurst Peach Blossom 5th**, born 22nd April, 1925; s Oakbridge Budget (750), d Peach Blossom of Claragh (2535), s d Gort Ned 5th (607).

H.C.—HENRY G. JONES, Downford, Mayfield, Sussex, red, **Downford Rosebud**, born 20th May, 1924; s Downford Dorilas (732), d Downford Daisy (2609).

C. Mrs. CONSTANCE MARY LINS CALVERT, Banwell Castle, Banwell, Somerset, black, **Banwell Baby**, born 25th March, 1925; s Banwell Brat (814), d Wightwick Baby (3203), s d Oakridge Pat (673).

CLASS 151.—Dexter Bull, calved before 1925. [7 entries.]

I. (£10).—Mrs. H. P. MAY, The Priory, Tiptree, Essex, red, **Drumgaunagh Red Ball** (920), born 29th July, 1923, bred by Miss P. de B. Bowen-Colthurst, Fields Farm, Laver-de-la-Haye, Colchester; s Drumgaunagh Renown (780), s Drumgaunagh Ladybird (2914 F.S.).

II. (£5).—Mrs. CONSTANCE MARY LINS CALVERT, Banwell Castle, Banwell, Somerset, **Wightwick Paul** (864), born 6th June, 1922, bred by Sir Walter Evans, Bart., Wightwick Hall, Wolverhampton; s Oakridge Pat (673), d Oakridge Beryl (2055).

III. (£2).—Lady KATHLEEN HARE, Brockenhurst Park, Brockenhurst, Hants, black, **Brockenhurst Little Comet** (876), born 16th August, 1924; s Brockenhurst Philip (726), d Gort Comet 11th (2762), s d Gort Comet 8th (2464).

* Given by the Dexter Cattle Society, the Devonshire Challenge Cup, for the best Animal in Classes 149 to 152, bred by Exhibitor, and entered in or eligible for the Dexter Herd Book. The Cup to be won by the same Exhibitor with different animals three years in succession before becoming his absolute property.

R.—Mrs. CONSTANCE MARY LINS CALVERT, Banwell Castle, Banwell, Somerset, black, **Banwell Brat** (814), born 19th June, 1923; s Fillongley Forest Fiend (Vol. 20, p. 78), d Pierrette 5th (2791), s d Pedestrian (876).

V.H.C.—Colonel W. O. GIBBS, Home Farm, Barrow Gurney, Somerset, black, **Grinstead Wilfrid**, born 20th October, 1923, bred by Lady Loder, Leonardslee, near Horsham, Sussex; s Brokenhurst Penny 2nd (694), d Grinstead Winifred, s d Braishfield Patrick (599).

H.C.—H. G. JONES, Downford, Mayfield, Sussex, black, **Downford David**, born 1st June, 1924; s Downford Dorilas (732), d Downford Dittany (2612).

THE PRIZES IN CLASS 152 WERE GIVEN BY THE DEXTER CATTLE SOCIETY.

CLASS 152.—*Dexter Bull, calved in 1925, whose sire and dam were entered in the English Dexter or Royal Dublin Society's Herd Book.* [4 entries.]

I. (£10.)—Mrs. RICHARD MAGOR, Springfield Lyons, Chelmsford, red, **Lyons Red King** (Vol. xxvi, p. 23), born 6th May; s Bertie of Grinstead (765), d Bryn Golden Red (2720), s d Oakridge Dane (571).

II. (£3.)—Lady KATHLEEN HARE, Brokenhurst Park, Brockenhurst, Hants, black, **Ratcliffe Robin Hood**, born 5th September, bred by W. Lindsay Everard, M.P., Ratcliffe Hall, Leicestershire; s Fillongley Forest Footpad, d Brokenhurst Pansy (2871), s d Brokenhurst Morella (651).

III. (£2.)—Mrs. CONSTANCE MARY LINS CALVERT, Banwell Castle, Banwell, Somerset, black, **Banwell Pagan**, born 9th August; s Wightwick Paul (864), d Puleinella 11th (3016), s d Bold Boy (623).

MILK RECORDED CATTLE.

(The Prizes in Classes 153 to 155 were given by the Herts Agricultural and Herts Milk Recording Societies, and were open only to Members of the Hertfordshire Milk Recording Society).

CLASS 153.—*Milk Recorded Cow, Shorthorn Type, in-Milk, or in-Calf, having produced two or more calves and which had been officially recorded under the Hertfordshire Milk Recording Society.* [6 entries.]

I. (£4.)—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, red, **Hadnock Charming Lass 9th** (Vol. 61, p. 959), born 30th June, 1914, bred by F. H. S. Perkins; s Mr. Dooley (112572), d Hadnock Charming Lass 3rd, s d Dean Prince (111499).

II. (£2.)—F. RUSSELL WOOD, Bendish House, Welwyn, red, **Bendish Pansy 5th**, born 11th January, 1919, bred by S. Blundell; s Sudbrooke Seaman (12976), d Bendish Pansy, s d Crimson Boy (4772).

III. (£1.)—Brig.-General VISCOUNT HAMPDEN, K.C.B., C.M.G., The Hood, Welwyn, red, little white, **Ruby**.

R.—The **EARL OF STRAFFORD**, Wrotham Park, Barnet, Herts, roan, **Rosina 8th**, born 16th April, 1914; s Ascott Sailor (118613), d Rosinia 6th, s d March On (89231).

H.C.—**F. LIPSCOMB**, Merry Hill Farm, Bushey, Herts, roan, **Merry Hill Mary** (12151 A.Y.), born 16th February, 1922. (Last calf 2nd January, 1926).

CLASS 154.—*Milk Recorded Cow, Friesian Type, in-Milk or in-Calf, having produced two or more calves, and which had been officially recorded under the Hertfordshire Milk Recording Society—First prize, £4—second, £2—third, £1. [1 entry.]*

[No Award.]

CLASS 155.—*Milk Recorded Cow, of any other Breed, or Cross Breed, in-Milk or in-Calf, having produced two or more calves, and which had been officially recorded under the Hertfordshire Milk Recording Society, and which was not eligible to compete in Classes 153 and 154. [13 entries.]*

I. (£4.)—Mrs. R. M. FOOT, White Hill, Berkhamsted, Herts, red, **Harefield Dawn**, born 8th November, 1917, bred by Messrs. Leake and Longe, Harefield, Middlesex; s Harefield Dairyman (10575), d Brightwell Dawn (23909), s d Sir David (10363).

II. (£2.)—**J. PIERPONT MORGAN**, Estate Office, Wall Hall, Watford, whole, **Willia Kingsway 2nd**, born 5th January, 1919, bred by P. J. Pepin, Jersey; s Broadlands Son (5428), d Willia Kingsway (23032), s d Kingsway (5158).

III. (£1.)—Mrs. R. M. FOOT, White Hill, Berkhamsted, Herts, red, **White Hill Psyche**, born 23rd August, 1921; s White Hill Model (11837), d Aspoll Comely Aphrodite 2nd (26638), s d Sudbourne Crochet (10801).

R.—**KERRY ESTATES, LTD.**, Warren House Farm, Stanmore, Middlesex, **Valencia Eileen 3rd**, born 14th March, 1916, bred by The Knight of Kerry, Valencia Island, Ireland; s Valencia Lord 1st, d Valencia Eileen 2nd, s d Gort Prince.

V.H.C.—Messrs. C. NORMAN, Moor Place, Much Hadham, Herts, orange and white, **Hadham Snowdrop** (15409), born 25th April, 1920; s Lands End Prince (3742), d Bosistow Snowdrop (13303), s d Glebe Aebo (3136).

H.C.—The **EARL OF STRAFFORD**, Wrotham Park, Barnet, Herts, whole, **Fauvie's Flower** (Vol. 37), born 7th July, 1921, bred by The Earl of Cavan; s Fauvie's Prince (13931), d Fountain's Bud (Vol. 33, p. 325), s d Doctor's Rose (13241). (Last calf 20th February, 1926).

C.—The **EARL OF STRAFFORD**, Wrotham Park, Barnet, Herts, broken, **Fountain's Bud** (Vol. 33, p. 325), born 28th January, 1919, bred by the late Countess of Cavan; s Doctor's Rose (13241), d Fountain's Chick (Vol. 29, p. 254) s d Fountain's Trial (11314). (Last calf, 15th September, 1925).—**KERRY ESTATES, LTD.**, Warren House Farm, Stanmore, Middlesex, born 18th March, 1921, bred by The Knight of Kerry, Valencia Island, Ireland; s Czar of Carton, d Sheen 16th, s d Kilmorna Lord 6th.

MILK TEST.

CLASS 156.—*Cow, in-Milk, of any breed or cross, under 950lbs. live weight, yielding the largest quantity of milk, of normal character, containing at each time of milking not less than 3 per cent. fat, the period of lactation being taken into consideration.*
[64 entries.]

I. (£10.)—R. BRUCE WARD, Godinton, Ashford, Kent, whole, Jersey, **Progress**, born 4th July, 1918; s Marcher (13012), d Promise, s d Oxford Sunbeam (8650). (Last calf 18th February, 1926).

II. (£5.) Major A. W. HUNTINGTON, D.S.O., Wellesbourne House, Warwick, whole fawn Jersey, **Marquettes Violet**, born 23rd July, 1917: s Lady's Sabina, d Violette's Lavanga 3rd, s d Violette's Aurelius.

III. (£2.)—KERRY ESTATES, LTD., Warren House Farm, Stanmore, Middlesex. Kerry, born 18th March, 1921, bred by The Knight of Kerry, Valencia Island, Ireland; s Czar of Carton, d Sheen 16th, s d Kilmorna Lord 6th.

CLASS 157.—*Cow, in-Milk, of any breed or cross, 950lbs. live weight or over, yielding the largest quantity of milk, of normal character, containing at each time of milking not less than 3 per cent. fat, the period of lactation being taken into consideration.*
[64 entries.]

I. (£10.)—Mrs. R. M. FOOT, White Hill, Berkhamsted, Herts, Red Poll, **White Hill Molly**, born 26th August, 1919; s Sudbourne Hector (11224), d Sudbourne Molly Belle (23321), s d Acton Crowfoot (9987). (Last calf 27th April, 1926).

II. (£5.)—Major J. H. DRAKE, The Manor House, Abbots Langley, Herts. orange and white Guernsey, **Ravenscroft Tisland Maid 4th** (14715), born 31st May, 1919, bred by J. A. Kay, Ravenscroft Hall, Middlewick, (Cheshire: s Lynchmere Lord Roberts 8th (3179), d Freda of the Preil (11349), s d Raymond of the Baissieres (2936). (Last calf December 27th, 1925).

III. (£2.)—Viscount FOLKESTONE, Estate Office, Longford Castle, Salisbury. Red Poll, **Longford Duck**, born 12th September, 1921, bred by the Earl of Radnor, Longford Castle, Salisbury; s Ashmoor Foreman (11520), d Longford Kingfisher (25764), s d Longford Monarch (10763).

SILVER CHALLENGE CUPS.

GIVEN BY LADY KATHLEEN HARE.

For the Dexter Cow or Heifer obtaining the greatest number of points in the Milk Test Classes. The Cup to become the property of an Exhibitor winning it three years in succession or five years in all.

I.—H. F. EARL, Biddenden, Kent, black Dexter, **Bridesmaid**, born 1913: Foundation Stock (Herd Book No. 2860). (Last calf 5th April, 1926).

R.—Ditto, black Dexter, **Charlewood**, born 1st October, 1918, bred by Rev. W. W. Joyce, South Moulton, Devonshire: s Black Jack (579), d Marion (2435). (Last calf 15th February, 1926).

GIVEN BY THE BRITISH KERRY CATTLE SOCIETY.

The Valencia Perpetual Silver Challenge Cup, value £15 15s., for the Kerry Cow gaining the highest number of points in the Milk Test Classes.

I.—**KERRY ESTATES, LTD.**, Warren House Farm, Stanmore, Middlesex, born 18th March, 1921, bred by The Knight of Kerry, Valencia Island, Ireland: s Czar of Carton, d Sheen 16th, s d Kilmorna Lord 6th.

R. LAURENCE CURRIE, Minley Manor, Farnborough, Hants, **Minley Miranda**, born 10th December, 1921; s O.P.H. Watersheen Ratmore (454), d Minley Mirabel (2715), s d Valencia Lord 3rd (370).

SPECIAL PRIZE.

Offered by the British Friesian Cattle Society to the owner of the Cow awarded the greatest number of points in Classes 156 and 157, provided such cow is a British Friesian and the Exhibitor a Member of that Society—£50.

[NOT AWARDED].

BUTTER TEST.

CLASS 158.—*Cow, of any breed or cross, under 950lbs. live weight, obtaining the greatest number of points by the practical test of the separator and churn. [55 entries.]*

I. (£5.)—**R. BRUCE WARD**, Godinton, Ashford, Kent, whole, Jersey, **Progress**, born 4th July, 1918; s Marcher (13012), d Promise, s d Oxford Sunbeam (8650). (Last calf 18th February, 1926).

II. (£3.)—**GROSVENOR BERRY**, Mount Bures, Bures, Suffolk, whole, Jersey, **Postmistress**, born 23rd January, 1922; s Lord Blackberry, d Postage 2nd, s d Verdun. (Last calf 7th January, 1926).

III. (£2.)—**Major A. W. HUNTINGTON**, D.S.O., Wellesbourne House, Warwick, whole fawn Jersey, **Marquettes Violet**, born 23rd July, 1917; s Lady's Sabina, d Violette's Lavanga 3rd, s d Violette's Aurelius.

R. and Certificate of Merit.—**Sir CHARLES WALSTON**, Newton Hall, Newton, Cambridge, whole, Jersey, **Newton Geraldine 4th** (2345, xxxvi, 432), born 4th March, 1922; s Myrtle's Oxford (14052), d Newton Geraldine 2nd (xxxiv, 394), s d Cutes Prince (13233). (Last calf 18th March, 1926).

Certificate of Merit.—**Mrs. OSWALD AMES**, Durfold Hall, Dunsfold, Surrey, white light fawn, Jersey, **Fairy Winks**, born 4th December, 1917, bred by J. P. Le Marquand, Jersey; s Fairy General (12609), d Financial Winks (22049), s d Financial Baron (4602). (Last calf 13th February, 1926).—Ditto, ditto, whole silver fawn, Jersey, **Polder's Lass** (29884 P.S.H.C.), born 23rd February, 1922, bred by John Hamon, St. Brelades, Jersey; s Cid's Inkerman (5673), d September Polder (22718), s d Aldan's Golden Sultan (12200). (Last calf 14th January, 1926).—**H. S. MOUNTAIN**, Groombridge Place, Kent, whole, Jersey, **Sweetbread 49th**, born 4th August, 1919, bred by J. Hamon, Trinity; s Masterman of Oaklands (13020), d Sweetbread 44th (24733), s d Blondes

Golden Oxford (12554). (Last calf 4th April, 1926).—Captain F. B. IMBERT-TERRY, Blue Hayes, Broad Clyst, Devon, whole Jersey, **Blue Hayes Baff** (Vol. xxxii, p. 75), born 2nd February, 1920; s Hotspur (12657), d Blue Hayes Scottie (Vol. xxvi, p. 239), s d Simpkins Chief (10446). (Last calf 5th October, 1925).

CLASS 159.—*Cow, of any breed or cross, 950lbs. live weight and over, obtaining the greatest number of points by the practical test of the separator and churn. [55 entries.]*

I. (£5.)—EDWARD CHRISTIAN, Otterbourne House, near Winchester, Hants, fawn and white, Guernsey, **Dene Maid of Wargrave** (14224), born 25th January, 1919, bred by Sir J. Remnant, Hare Hatch, Twyford, Berks; s Sequels Victor 2nd (3591), d Lady No. 97 (8596), s d Goldseeker (7335). (Last calf 15th January, 1926).

II. (£3.) and Certificate of Merit.—Mrs. HARRY BRIGGS, The Grange, Northstoke, near Wallingford, whole, Jersey, **Lily of the Valley**, born 26th October, 1917, bred by Mrs. Cottrell Dormer, Coomb Woodstock; s King Primrose (12674), d Golden Primrose (P. 289), s d Rosy's Golden Champion (11532). (Last calf 2nd October, 1925).

III. (£2.)—Mrs. R. M. FOOT, White Hill, Berkhamsted, Herts, Red Poll, **White Hill Molly**, born 26th August, 1919; s Sudbourne Hector (11224), d Sudbourne Molly Belle (23321), s d Acton Crowfoot (9987). (Last calf 27th April, 1926).

R.—G. HOLT THOMAS, Northdean House, Hughenden, High Wycombe, black and white British Friesian, **Northdean Princess May** (55622), born 18th March, 1921; s Dell Hollander (P.L. 7655), d Colton Mayflower 3rd (20552), s d Colton Sultan (2525).

SPECIAL PRIZES.

GIVEN BY THE RESPECTIVE BREED SOCIETIES.

For the South Devon Cow obtaining the best results—[£5 5s.]

[NOT AWARDED.]

For the three Jersey Cows obtaining the best results and not less than 42 points.

I. (Gold Medal.)—R. BRUCE WARD, Godinton, Ashford, Kent, whole, **Progress**, born 4th July, 1918; s Marcher (13012), d Promise, s d Oxford Sunbeam (8650). (Last calf 18th February, 1926).

II. (Silver Medal.)—GROSVENOR BERRY, Mount Bures, Bures, Suffolk, whole, **Postmistress**, born 23rd January, 1922; s Lord Blackberry, d Postage 2nd, s d Verdun. (Last calf 7th January, 1926).

III. (Bronze Medal.) Major A. W. HUNTINGTON, D.S.O., Wellesbourne House, Warwick, whole fawn Jersey, **Marquettes Violet**, born 23rd July, 1917; s Lady's Sabina, d Violette's Lavanga 3rd, s d Violette's Aurelius.

R. Sir CHARLES WALSTON, Newton Hall, Newton, Cambridge, whole, **Newton Geraldine 4th** (2345, xxxvi, 432), born 4th March, 1922; s Myrtle's Oxford (14052), d Newton Geraldine 2nd (xxxiv, 394), s d Cutes Prince (13233). (Last calf 18th March, 1926).

lxiv Prizes awarded for Butter Tests, Devon Longwoolled and Kent or Romney Marsh Sheep.

For the Guernsey Cow obtaining the best results.

I. (£5.) EDWARD CHRISTIAN, Otterbourne House, near Winchester, Hants, fawn and white, **Dene Maid of Wargrave** (14224), born 25th January, 1919, bred by Sir J. Remnant, Hare Hatch, Twyford, Berks; s Sequels Victor 2nd (3591), d Lady No. 97 (8598), s d Goldseeker (7335). (Last calf 15th January, 1926).

R. Major J. H. DRAKE, The Manor House, Abbots Langley, Herts, orange and white Guernsey, **Ravenscroft Tisland Maid 4th** (14715), born 31st May, 1919, bred by J. A. Kay, Ravenscroft Hall, Middlewick, Cheshire; s Lynchmere Lord Roberts 8th (3179), d Freda of the Preil (11349), s d Raymond of the Baissieres (2936). (Last calf December 27th, 1925).

SHEEP.

DEVON LONGWOOLLED.

(£10 towards the Prizes in these Classes were given by the Devon Longwoolled Sheep Breeders' Society).

CLASS 160.—*Devon Longwoolled Shearling Ram.* [4 entries.]

I. (£10.)—FREDERICK WHITE, Torweston, Williton, Somerset.

II. (£5.)—THOMAS JOHN PEARCEY, Peadhill, Tiverton, Devon.

III. (£2.)—THOMAS JOHN PEARCEY.

R.—FREDERICK WHITE.

CLASS 161.—*Pair of Devon Longwoolled Ram Lambs, dropped in 1926.* [2 entries.]

I. (£10.)—FREDERICK WHITE, Torweston, Williton, Somerset.

II. (£5.)—FREDERICK WHITE.

CLASS 162.—*Pen of three Devon Longwoolled Shearling Ewes.* [3 entries.]

I. (£10.)—FREDERICK WHITE, Torweston, Williton, Somerset.

II. (£5.)—THOMAS JOHN PEARCEY, Peadhill, Tiverton, Devon.

III. (£2.)—FREDERICK WHITE.

KENT OR ROMNEY MARSH.

(£17 towards the Prizes in these Classes were given by the Kent or Romney Marsh Sheep Breeders' Association).

CLASS 163.—*Kent or Romney Marsh Two Shear Ram.* [4 entries.]

I. (£10.)—JOHN EGERTON QUESTED, The Firs, Cheriton, Kent.

II. (£5.)—JOHN EGERTON QUESTED.

III. (£2.)—The EARL OF GUILFORD, Waldershare Park, near Dover.

*Prizes awarded to Kent or Romney Marsh and
Southdown Sheep.* lxv

CLASS 164.—*Kent or Romney Marsh Shearling Ram.* [8 entries.]

- I. (£10.)—JOHN EGERTON QUESTED, The Firs, Cheriton, Kent.
- II. (£5.)—JOHN EGERTON QUESTED.
- III. (£2.)—The EARL OF GUILFORD, Waldershare Park, near Dover.
- R.—ASHLEY STEVENS, Davington Hall, Faversham, Kent.

**CLASS 165.—*Pair of Kent or Romney Marsh Ram Lambs, dropped
in 1926.* [6 entries.]**

- I. (£10.)—JOHN EGERTON QUESTED, The Firs, Cheriton, Kent.
- II. (£5.)—ASHLEY STEVENS, Davington Hall, Faversham, Kent.
- III. (£2.)—The EARL OF GUILFORD, Waldershare Park, near Dover.
- R.—JOHN EGERTON QUESTED.

**CLASS 166.—*Pen of three Kent or Romney Marsh Shearling Ewes.*
[5 entries.]**

- I. (£10.)—JOHN EGERTON QUESTED, The Firs, Cheriton, Kent.
- II. (£5.)—The EARL OF GUILFORD, Waldershare Park, near Dover.
- III. (£2.)—JOHN EGERTON QUESTED.
- R.—CHAS. PETIEY AND CO., Staple, Canterbury.

SOUTHDOWN.

(£17 towards the Prizes in these Classes were given by the Southdown Sheep Society).

CLASS 167.—*Southdown Two Shear Ram.* [3 entries.]

- I. (£10) and Special*—Lady FITZGERALD, Buckland, Faringdon, Berks.
- II. (£5.)—The Lady LUDLOW, Luton Hoo, Luton, Beds.
- III. (£2.)—The Lady LUDLOW.

CLASS 168.—*Southdown Shearling Ram.* [9 entries.]

- I. (£10) and Reserve for Special*—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford.
- II. (£5.)—Lady FITZGERALD, Buckland, Faringdon, Berks.
- III. (£2.)—The Lady LUDLOW, Luton Hoo, Luton, Beds.
- R.—The Lady LUDLOW.
- H.C.—LITTLE GREEN ESTATES CO., Hucksholt Farm, Harting, Petersfield, bred by Mr. Walter Langmead, Gapton, Sussex.
- C.—LITTLE GREEN ESTATES CO.

* Given by the Southdown Sheep Society, under Conditions 65, subject to there being at least three competitors.—Silver Medal or £1 for the best Ram in Classes 167 and 168.

lxvi Prizes awarded to Southdown and Hampshire Down Sheep.

CLASS 169.—Pair of Southdown Ram Lambs, dropped in 1926.
[5 entries.]

- I. (£10.)**—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford.
II. (£5.)—Lady FITZGERALD, Buckland, Faringdon, Berks.
III. (£2.)—The Lady LUDLOW, Luton Hoo, Luton, Beds.
R.—Sir HENRY WHITEHEAD, J.P., Stagenhoe Park, Welwyn, Herts.

CLASS 170.—Pen of three Southdown Shearling Ewes. [6 entries.]

- I. (£10.)**—The Lady LUDLOW, Luton Hoo, Luton, Beds.
II. (£5.)—The Lady LUDLOW.
III. (£2.)—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford.
R.—LITTLE GREEN ESTATES CO., Hucksholt Farm, Harting, Petersfield, bred by Sir Richard Garton, C.B.E., Haslemere, Surrey.

HAMPSHIRE DOWN.

(£17 towards the Prizes in these Classes and the Champion Prize were given by, and the Prizes in Class 174a through, the Hampshire Down Sheep Breeders' Association).

CLASS 171.—Hampshire Down Shearling Ram. [8 entries.]

- I. (£10.)**—H. W. BISHOP and J. W. MEASURES, Pendley Stock Farms, Tring.
II. (£5.)—JAMES GOLDSMITH, Blendworth, Horndean, Cosham, Hants.
III. (£2.)—Colonel C. W. SOFER WHITBURN, Ampport St. Mary's, Andover, Hants.
R.—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading.
H.C.—Major and Mrs. JERVOISE, Herriard Park, Basingstoke.
C.—JAMES GOLDSMITH.

CLASS 172.—Hampshire Down Ram Lamb, dropped in 1926.
[8 entries.]

- I. (£10) and Champion (£5)***—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading.
II. (£5.)—JAMES GOLDSMITH, Blendworth, Horndean, Cosham, Hants.
III. (£2.)—Colonel C. W. SOFER WHITBURN, Ampport St. Mary's, Andover, Hants.
R.—Major J. A. MORRISON.
H.C.—H. W. BISHOP and J. W. MEASURES, Pendley Stock Farms, Tring.
C.—Major and Mrs. JERVOISE, Herriard Park, Basingstoke.

CLASS 173.—Pair of Hampshire Down Ram Lambs, dropped in 1926. [6 entries.]

- I. (£10) and Reserve for Champion***—Major and Mrs. JERVOISE, Herriard Park, Basingstoke.

* Best Ram, Ram Lamb, Pair or Pen, in Classes 171 to 174a.

*Prizes awarded to Hampshire Down and Oxford
Down Sheep.* lxvii

II. (£5.)—JAMES GOLDSMITH, Blendworth, Horndean, Cosham, Hants.

III. (£2.)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading.

R.—Colonel C. W. SOFER WHITBURN, Amport St. Mary's, Andover, Hants.

H.C.—H. W. BISHOP and J. W. MEASURES, Pendley Stock Farms, Tring.

C.—FREDERICK VIGUS, Chelsing Farm, Ware, Herts.

CLASS 174.—*Pen of three Hampshire Down Shearling Ewes.*
[3 entries.]

I. (£10.)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading.

II. (£5.)—Major J. A. MORRISON, D.S.O.

III. (£2.)—FREDERICK VIGUS, Chelsing Farm, Ware, Herts. .

CLASS 174A.—*Pen of three Hampshire Down Ewe Lambs, dropped
in 1926.* [6 entries.]

I. (£10.)—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading.

II. (£5.)—Colonel C. W. SOFER WHITBURN, Amport St. Mary's, Andover, Hants.

III. (£2.)—JAMES GOLDSMITH, Blendworth, Horndean, Cosham, Hants.

R.—H. W. BISHOP and J. W. MEASURES, Pendley Stock Farms, Tring.

H.C.—Major and Mrs. JERVOISE, Hetfield Park, Basingstoke.

C.—FREDERICK VIGUS, Chelsing Farm, Ware, Herts.

OXFORD DOWN.

CLASS 175.—*Oxford Down Shearling Ram.* [8 entries.]

I. (£10.)—HUGH WILLIAM STILGOE, The Grounds, Adderbury, near Banbury, Oxon.

II. (£5.)—EVAN JEFFRIES, Glebe Farm, Windrush, Oxford.

III. (£2.)—HUGH WILLIAM STILGOE.

R.—Captain E. G. SPENCER CHURCHILL, Northwick Park, Blockley, Wores.

H.C.—HUGH WILLIAM STILGOE.

C.—Captain E. G. SPENCER CHURCHILL.

CLASS 176.—*Pair of Oxford Down Ram Lambs, dropped in 1926.*
[7 entries.]

I. (£10.)—W. F. G. WATTS, Elsfield, Oxford.

II. (£5.)—Major R. F. FULLER, Great Chalfield, Melksham.

III. (£2.)—EVAN JEFFRIES, Glebe Farm, Windrush, Oxford.

Ixviii Prizes awarded to Oxford Down and Dorset Horn Sheep.

R.—HUGH WILLIAM STILGOE, The Grounds, Adderbury, near Banbury, Oxon.

H.C.—HARWOOD BROS., Lee's Rest, Charlbury, Oxon.

C.—Captain E. G. SPENCER CHURCHILL, Northwick Park, Blockley, Worcs.

CLASS 177.—*Oxford Down Shearling Ewe.* [6 entries.]

I. (£10.)—HUGH WILLIAM STILGOE, The Grounds, Adderbury, near Banbury, Oxon.

II. (£5.)—EVAN JEFFRIES, Glebe Farm, Windrush, Oxford.

III. (£2.)—HUGH WILLIAM STILGOE.

R.—Major R. F. FULLER, Great Chalfield, Melksham.

(The Prizes in Class 178 were given by the Oxford Down Sheep Breeders' Association, and were withheld until the Animals awarded the Prizes were registered in the Flock Book).

CLASS 178.—*Pen of two Oxford Down Ewe Lambs, dropped in 1926.* [7 entries.]

I. (£8.)—W. F. G. WATTS, Elsfield, Oxford.

II. (£3.)—Major R. F. FULLER, Great Chalfield, Melksham.

III. (£1.)—HARWOOD BROS., Lee's Rest, Charlbury, Oxon.

R.—EVAN JEFFRIES, Glebe Farm, Windrush, Oxford.

H.C.—Captain E. G. SPENCER CHURCHILL, Northwick Park, Blockley, Worcs.

DORSET HORN.

The Animals entered in Classes 179 and 181 must have been shorn bare in the year of the Show.

(£15 towards the Prizes in Classes 179 to 181 were given by the Dorset Horn Sheep Breeders' Association).

CLASS 179.—*Dorset Horn Shearling Ram—First prize, £10—second, £5—third, £2.* [1 entry.]

[No AWARD.]

CLASS 180.—*Pair of Dorset Horn Ram Lambs, dropped after Nov. 1st, 1925—First prize, £10—second, £5—third, £2.* [1 entry.]

[No AWARD.]

CLASS 181.—*Pen of three Dorset Horn Shearling Ewes—First prize, £10—second, £5—third, £2.* [1 entry.]

[No AWARD.]

SUFFOLK.

(£25 towards the Prizes in these Classes were given by the Suffolk Sheep Society).

CLASS 182.—*Suffolk Shearling Ram.* [7 entries.]

I. (£10.)—W. G. BUCHANAN, Manor House Farm, Abergavenny.

II. (£5.)—W. C. JACKSON, Fowlmere, Royston, Herts.

III. (£2.)—W. C. JACKSON.

CLASS 183.—*Pair of Suffolk Ram Lambs, dropped in 1926.* [6 entries.]

I. (£10) and Champion*—GEORGE ARTHUR GOODCHILD, Great Yeldham Hall, Great Yeldham, Essex.

II. (£5.)—W. C. JACKSON, Fowlmere, Royston, Herts.

III. (£2.)—CHAS. COUSINS, Stisted, Braintree, Essex.

CLASS 184.—*Pen of three Suffolk Shearling Ewes.* [3 entries.]

I. (£10.)—CHAS. COUSINS, Stisted, Braintree, Essex.

II. (£5.)—W. G. BUCHANAN, Manor House Farm, Abergavenny.

III. (£2.)—R. H. FOA, Holywell Park, Wrotham, Kent.

CLASS 185.—*Pen of three Suffolk Ewe Lambs, dropped in 1926.* [6 entries.]

I. (£10) and Reserve for Champion*—GEORGE ARTHUR GOODCHILD, Great Yeldham Hall, Great Yeldham, Essex.

II. (£5.)—W. C. JACKSON, Fowlmere, Royston, Herts.

III. (£2.)—CHAS. COUSINS, Stisted, Braintree, Essex.

R.—R. H. FOA, Holywell Park, Wrotham, Kent.

RYELAND.

(£15 of the Prizes in these Classes were given by the Ryeland Sheep Society).

CLASS 186.—*Ryeland Ram, Two Shear and upwards.* [5 entries.]

I. (£10.)—E. W. LANGFORD, LTD., Registered Office, Wye Bridge, Hereford.

II. (£5.)—THOMAS LORIMER MARTIN, Ashe Warren House, Overton, Hants, bred by F. T. Gough, Lugwardine, Hereford.

III. (£2.)—E. W. LANGFORD, LTD.

R.—THOMAS LORIMER MARTIN.

CLASS 187.—*Ryeland Shearling Ram.* [3 entries.]

I. (£10.)—E. W. LANGFORD, LTD., Registered Office, Wye Bridge, Hereford.

II. (£5.)—E. W. LANGFORD, LTD.

III. (£2.)—THOMAS L. MARTIN, Ashe Warren House, Overton, Hants.

* Given by Sir F. Hervey Bathurst, Bart, D.S.O., a Silver Cup for the best Ram, Pair or Pen, in the Suffolk Classes. The Cup to be won three years in succession before becoming the absolute property of the winner.

lxx *Prizes awarded to Ryeland and Kerry Hill Sheep.*

CLASS 188.—*Pair of Ryeland Ram Lambs, dropped in 1926.*
[4 entries.]

- I. (£10.)**—THOMAS L. MARTIN, Ashe Warren House, Overton, Hants.
II. (£5.)—THOMAS L. MARTIN.
III. (£2.)—E. W. LANGFORD, LTD., Registered Office, Wye Bridge, Hereford.
R.—ERIC SYKES, Richings Park, Colnbrook, Bucks.

CLASS 189.—*Pen of three Ryeland Shearling Ewes.* [2 entries.]

- I. (£10.)**—E. W. LANGFORD, LTD., Registered Office, Wye Bridge, Hereford.
II. (£5.)—THOMAS L. MARTIN, Ashe Warren House, Overton, Hants.

KERRY HILL.

(£12 towards the Prizes in Classes 190 to 192 were given by the Kerry Hill (Wales) Flock Book Society, and animals must have been shown uncoloured—the names and Flock Book number of Rams to be given).

CLASS 190.—*Kerry Hill Ram, Two Shear and upwards.* [6 entries.]

- I. (£10.)**—Mrs. E. TATE, Swinford Lodge, Rugby, bred by Mrs. S. J. Pugh and Sons, Jamsford.
II. (£5.)—Hon. Mrs. SMYTH, Ashton Court, Bristol, **Kerry Topper** (9338), bred by B. Alderson, Kerry.
III. (£2.)—The DINAM ESTATES Co. (Mr. David Davies, M.P.), Llandinam Hall Farm, Llandinam, Co. Montgomery, **Marston Admiral** (10446), bred by L. T. Evans, Upper Marston, Lyonshall.
R.—The MARQUESS OF LONDONDERY, K.G., P.C., Plas, Machynlleth, N. Wales, **Great Weston Yeoman** (10149), bred by T. Jones and Son, Great Weston, Montgomery.

CLASS 191.—*Kerry Hill Shearling Ram.* [9 entries.]

- I. (£10) and Champion***—E. D. MOORE, Brampton Brian, Herefordshire.
II. (£5.)—MARQUESS OF LONDONDERY, K.G., P.C., Plas, Machynlleth, N. Wales, **Great Weston Zeals** (Vol. 26), bred by T. Jones and Sons, Great Weston, Montgomery.
III. (£2.)—Sir DAVID R. LLEWELLYN, Bart., The Court, St. Fagans.
R.—DAVID PERCIVAL BARNETT, Walterston, Llanccarfan, Cardiff, **Walterston Acrobat**.

CLASS 192.—*Pen of three Kerry Hill Shearling Ewes.* [8 entries.]

- I. (£10) and Reserve for Champion***—The DINAM ESTATES Co. (Mr. David Davies, M.P.), Llandinam Hall Farm, Llandinam, Co. Montgomery.
II. (£5.)—Hon. Mrs. SMYTH, Ashton Court, Bristol.
III. (£2.)—MARQUESS OF LONDONDERY, K.G., P.C., Plas, Machynlleth, N. Wales.
R.—E. D. MOORE, Brampton Brian, Herefordshire, bred by Exhibitor and J. Sheppard, The Moors, Welshpool.

* Given by H.R.H. The Prince of Wales, K.G., a Challenge Cup, value £20, for the best Animal exhibited in Class 191 or 192, to be won three times in succession or four times altogether before becoming the property of the Exhibitor.

GOATS.

(£15 towards the Prizes in these Classes were given through the British Goat Society).

CLASS 193.—*Female Goat, in-Milk, any age, British, Alpine, Toggenburg, or British Toggenburg.* [7 entries.]

I. (£2 10s.)—Miss C. CHAMBERLAIN, Westons, Lyndhurst, Hants, brown and white, British Toggenburg, 2* **Wistful of Westons** (H.B. 4641), born 7th February, 1921; s †Edenstead Pluck (H.B. 3007), d Patience of Westons (H.B. 4512), s d Champion Proud (H.B. 2853). (Last kid, 30th March, 1926).

II. (£1 10s.)—Mrs. F. J. BROWELL, Feltham Vicarage, Middlesex, black with white markings, **Pastime of Bashley**, born 14th February, 1921, bred by Miss E. M. Pope, Bashley Lodge, New Milton; s Wilfred of Westons, d Puff of Bashley (Q*Q*), s d Ch. †Proud. (Last kid, February 20th, 1926).

III. (15s.)—Miss ELLEN MARY POPE, Bashley Lodge, New Milton, Hants, fawn and white, British Toggenburg, **Playfellow of Bashley** (H.B. 6541), born 25th April, 1924; s Herne Bay Thark (4916), d Champion Playmate of Bashley (Q*Q*Q* 4675), s d †Wilful of Westons (4673). (Last kid, 27th March, 1926).

R.—Ditto, ditto, black and white, **Player of Bashley** (Q*Q*Q*Q*. H.B. 5886), born 6th April, 1923; s Champion †Proud, d Champion Playmate of Bashley (Q*Q*Q*Q*).

H.C.—Mrs. F. J. BROWELL, Feltham Vicarage, Middlesex, British Alpine, **Feltham Esmeralda** (Q*Q* H.B. 6621), born 1st March, 1924; s Wayward of Westons, d Pogo of Bashley, s d Herne Bay Thark. (Last kid, 19th March, 1926).

CLASS 194.—*Female Goat, in-Milk, any age, Anglo-Nubian.* [4 entries.]

I. (£2 10s.)—Miss K. PELLY, Theydon Place, Epping, Essex, red tan, **Theydon Bettina** (A.N. 1532), born 19th March, 1923; s Sadberge Alexander (A.N. 1243), d Theydon Beauty (Q* A.N. 1272), s d Sadberge Marcus Coriolanus (A.N. 1003).

II. (£1 10s.)—Ditto, ditto, red tan, **Theydon Almond** (A.N. 1444), born 26th February, 1922; s Edenbreck Klito (A.N. 947), d Regius Aganippe (Q*A.N. 895), s d Wigmore Norman (A.N. 562). (Last kid, April 6th, 1926).

CLASS 195.—*Female Goat, in-Milk, any age, any other variety.* [6 entries.]

I. (£2 10s.)—Miss E. SKIDMORE, Ashley Leigh, Box, white, British Saanen, **Heddon Sainfoin** (H.B. 4791), born 4th March, 1921; s †Peter of Bashley (H.B. 4207), d Wigmore Clover (**Q*, 2197). (Last kid, 27th February, 1926).

II. (£1 10s.)—Miss JANE PORT, Twisly, Catsfield, Battle, white, British Saanen, **Wells Pearl** (6427), born 1st April, 1924; s Ch. †Ridgeway Ranunculus (5528), d Roughets Money-maker (5215), s d Cornish Jester (4188). (Last kid, March 27th, 1926).

III. (15s.).—Miss E. SKIDMORE, Ashley Leigh, Box, Strawberry roan, **Heddon Speedwell **Q****, born 10th March, 1920; s Brendon Friday (H.B.T. 349), d Wigmores Clover (**Q* H.B. 2197). (Last kid, January 3rd, 1926).

R.—Ditto, ditto, white, British Saanen, **Heddon Spot** (H.B. 6112), born 27th May, 1923; s †Peter of Bashley (H.B. 4207), d Ceres P.R. (Last kid, March 29th, 1926).

CLASS 196.—*Goatling. British Alpine, Toggenburg or British Toggenburg, over one but not exceeding two years.* [3 entries.]

I. (£2 10s.).—Mrs. BROWELL, Feltham Vicarage, Middlesex, British Alpine, **Feltham Cinnamon** (H.B. 7191), born 19th February, 1925; s Wayward of Westons, d Pogo of Bashley, s d Herne Bay Thark.

II. (£1 10s.).—Miss C. CHAMBERLAIN, Westons, Lyndhurst, Hants, black and white, British Alpine, **Whimsical of Westons** (H.B. 7051), born 26th March, 1925; s Didgemere Dictator (H.B. 6816), d 2* Wistful of Westons (H.B. 4641), s d *Edenstead Pluck.

III. (15s.).—Mrs. MORCOM, The Clock House, Bromsgrove, chocolate and white, British Toggenburg, **Rayleigh Rosalind**, born 1st February, 1925, bred by Mrs. Potton, Rayleigh, Essex; s †Rayleigh Robin, d Rayleigh Judy, s d Ch.† Prophet of Bashley.

CLASS 197.—*Goatling, any other variety, over one but not exceeding two years.* [8 entries.]

I. (£2 10s.).—Miss ELLEN MARY POPE, Bashley Lodge, New Milton, black and white, **Proverb of Bashley** (H.B. 6932), born 11th March, 1923; s †Ridgway Rumpelstiltskin (6536), d Paradox of Bashley (6424), s d Herne Bay Thark (4916).

II. (£1 10s.).—Miss JANE PORT, Twisley, Catsfield, Battle, white, British Saanen, **Wells Pennywort** (7010), born 2nd April, 1925; s Ch. †Ridgeway Ranunculus (5528), d Roughets Money-maker (5215), s d Cornish Jester (4188).

III. (15s.).—Miss EMILY SKIDMORE, Ashley Leigh, Box, white, British Saanen, **Heddon Sophia**, born 4th March, 1925; s Ch. Schnapp (S. 34), d Heddon Spring.

R.—Miss C. CHAMBERLAIN, Westons, Lyndhurst, Hants, black, Anglo-Nubian Swiss, **Weird of Westons** (H.B. 6936), born 6th March, 1925; s Ridgeway Rumpelstiltskin (H.B. 6536), d 2*2* Welfare of Westons (H.B. 4640), s d Champion Proud (H.B. 2853).

H.C.—Miss EMILY SKIDMORE, Ashley Leigh, Box, white, British Saanen, **Heddon Symbol**, born 12th February, 1925; s Ch. Schnapp, d Heddon Supreme.

C.—Mrs. MORCOM, The Clock House, Bromsgrove, fawn, Anglo-Nubian Swiss, **Didgemere Daystar**, born 14th March, 1925, bred by Mrs. Abbey, Didgemere Hall, Roydon; s †Didgemere Duncan, d Didgemere Dusky (*Q*Q*), s d Ch. †Prophet of Bashley.

CLASS 198.—*Female Kid, any variety, not exceeding one year.* [9 entries.]

I. (£2 10s.).—Miss ELLEN MARY POPE, Bashley Lodge, New Milton, chocolate and white, British Toggenburg, **Plaything of Bashley** (7455), born 25th Feb., 1926; s †Prefect of Bashley (6931), d Champion Playmate of Bashley (Q*Q*Q* 4675), s d Wilful of Westons.

II. (£1 10s.).—Miss EMILY SKIDMORE, Ashley Leigh, Box, white, British Saanen, **Heddon Septre**, born 3rd January, 1926; s Ch. Schnapps (S. 34), d Heddon Speedwell (**Q**).

III. (15s.).—Miss ELLEN MARY POPE, Bashley Lodge, New Milton, white, British Saanen, **Poetry of Bashley** (7458), born 28th February, 1926; s †Prefect of Bashley (6931), d Polly of Bashley (6425).

R.—Miss C. CHAMBERLAIN, Westons, Lyndhurst, Hants, white, British Saanen, **Willing of Westons** (7471), born 5th February, 1926; s Champion Schnapps (W.34), d Wish of Westons (H.B. 5859), s d Herne Bay Thark (H.B. 4916).

H.C.—Miss K. PELLY, Theydon Place, Epping, white, British Saanen, **Theydon Prudence** (B.S. 7465), born 20th February, 1926; s Ridgeway Rumpelstiltskin (H.B. 6536), d Theydon Peggie (*Q*Q*Q* H.B. 5284), s d Ch. †Proud (H.B. 2853).—Ditto, ditto, white, British Saanen, **Theydon Suzanne** (H.B. 7445), born 26th February, 1926; s Ridgeway Rienzi (H.B. 7069), d Atherstone Snowflower (Q*Q* H.B. 5460), s d Wayward of Westons (H.B. 4354).

C.—Mrs. MORCOM, The Clock House, Bromsgrove, white, British Saanen, **Cornish Prophetess**, born 1st February, 1926; s Ch. †Ridgeway Ranunculus, d Cornish Le Fay (**Q*), s d †Tremedda Perceval.—Miss JANE PORT, Twisley, Catsfield, Battle, white, British Saanen, **Wells Posy** (7479), born 18th March, 1926; s Ridgeway Rumpelstiltskin (6536), d Heddon Superb (6113 and B.S. 10) s d Ch. Schnapps (S. 34).

**CLASS 199.—*Milking Competition for Quality [Butter Fat only]
Quantity and Time [two milkings].*** [14 entries.]

I. (£2 10s.).—Miss ELLEN MARY POPE, Bashley Lodge, New Milton, Hants. black and white, **Player of Bashley** (Q*Q*Q*Q* H.B. 5886), born 6th April, 1923; s Champion †Proud, d Champion Playmate of Bashley (Q*Q*Q*Q*).

II. (£1 10s.).—Mrs. F. J. BROWELL, Feltham Vicarage, Middlesex, black with white markings, **Pastime of Bashley**, born 14th February, 1921, bred by Miss E. M. Pope, Bashley Lodge, New Milton: s Wilfred of Westons, d Puff of Bashley (Q*Q*), s d Ch. †Proud. (Last kid, February 20th, 1926).

III. (15s.).—Miss C. CHAMBERLAIN, Westons, Lyndhurst, Hants, brown and white, British Toggenburg, **2* Wistful of Westons** (H.B. 4641), born 7th February, 1921; s †Edenstead Pluck (H.B. 3007), d Patience of Westons (H.B. 4512), s d Champion Proud (H.B. 2853). (Last kid, 30th March, 1926).

R.—Miss ELLEN MARY POPE, Bashley Lodge, New Milton, Hants, fawn and white, British Toggenburg, **Playfellow of Bashley** (H.B. 6541), born 25th April, 1924; s Herne Bay Thark (4916), d Champion Playmate of Bashley (Q*Q*Q*Q* 4675), s d †Wilful of Westons (4673). (Last kid, 27th March, 1926).

**CLASS 200.—*Milking Competition for Quantity and Time only
[three milkings].*** [15 entries.]

I. (£2 10s.).—Miss C. CHAMBERLAIN, Westons, Lyndhurst, Hants, brown and white, British Toggenburg, **2* Wistful of Westons** (H.B. 4641), born 7th February, 1921; s †Edenstead Pluck (H.B. 3007), d Patience of Westons (H.B. 4512), s d Champion Proud (H.B. 2853). (Last kid, 30th March, 1926).

II. (£1 10s.).—Miss ELLEN MARY POPE, Bashley Lodge, New Milton, Hants, black and white, **Player of Bashley** (Q*Q*Q*Q* H.B. 5886), born 6th April, 1923; s Champion †Proud, d Champion Playmate of Bashley (Q*Q*Q*).

III. (15s.).—Ditto, ditto, fawn and white, British Toggenburg, **Playfellow of Bashley** (H.B. 6541), born 25th April, 1924; s Herne Bay Thark (4916), d Champion Playmate of Bashley (Q*Q*Q* 4675), s d †Wilful of Westons (4673). (Last kid, 27th March, 1926).

R.—Miss JANE PORT, Twisley, Catsfield, Battle, white, British Saanen, **Heddon Superb** (6113, B.S. 10), born 11th May, 1923, bred by Miss E. Skidmore, Ashley, Leigh, Box, Wilts; s Ch. Schnapps (S. 34), d Heddon Sainfoin (4791), s d †Peter of Bashley (4207). (Last kid, 18th March, 1926).

SPECIAL PRIZES.

GIVEN BY THE BRITISH GOAT SOCIETY.

A Silver Challenge Cup and a Challenge Certificate for the Best Female Goat over two years that has borne a kid.

I.—Miss C. CHAMBERLAIN, Westons, Lyndhurst, Hants, brown and white, British Toggenburg, 2* **Wistful of Westons** (H.B. 4641), born 7th February, 1921; s †Edenstead Pluck (H.B. 3007), d Patience of Westons (H.B. 4512), s d Champion Proud (H.B. 2853). (Last kid, 30th March, 1926).

A Challenge Certificate for the Best Dual Purpose Goat over two years that has borne a kid.

[NOT AWARDED.]—

A Bronze Medal for the Best Female Exhibit.

I.—Miss C. CHAMBERLAIN, Westons, Lyndhurst, Hants, brown and white, British Toggenburg, 2* **Wistful of Westons** (H.B. 4641), born 7th February, 1921; s †Edenstead Pluck (H.B. 3007), d Patience of Westons (H.B. 4512), s d Champion Proud (H.B. 2853). (Last kid, 30th March, 1926).

A Breed Challenge Certificate for the Best Anglo-Nubian Female Goat over two years of age that has borne a kid.

L.—Mrs. F. J. BROWELL, Feltham Vicarage, Middlesex, black with white markings, **Pastime of Bashley**, born 14th February, 1921, bred by Miss E. M. Pope, Bashley Lodge, New Milton; s Wilfred of Westons, d Puff of Bashley (Q*Q*), s d Ch. †Proud. (Last kid, February 20th, 1926).

R.—Miss ELLEN MARY POPE, Bashley Lodge, New Milton, Hants, black and white, **Player of Bashley** (Q*Q*Q*Q*, H.B. 5886), born 6th April, 1923; s Champion †Proud, d Champion Playmate of Bashley (Q*Q*Q*).

The Prizes awarded at this Show were also included in the awards for the British Goats Society's "Breeders' Perpetual Challenge Cup and "Stud Goat" Challenge Cup.

PIGS.

BERKSHIRE.

(£9 towards the Prizes in these Classes were given by the British Berkshire Society, and ages were calculated to May 25, 1926).

CLASS 201.—*Berkshire Boar, exceeding 18 months old.* [8 entries.]

I. (£10) and Challenge Cup*—JOHN D. PLAYER, Lenton, Nottingham, **Leadenham Duke** (H.B., B.748), born 15th January, 1923, bred by Captain J. S. Reeve, Leadenham, Lincoln; s Pamber Paragon (H.B. 23411), d Leadenham Turvey 5th (H.B. 25938), s d Manor Robert (H.B. 22770).

II. (£5) and Reserve for Challenge Cup*—T. CHETTL (for Reading Corporation), Manor Farm, Whitley, Reading, **Whitley Charles** (B.1356), born 8th August, 1924; s Buckland Kirkham (B.1080), d Whitley Vaila II (S.1693), s d Murrell Binky (21236).

III. (£2.)—FRANK TOWNEND, Highfield, Moor-Allerton, Leeds, **Highfield Royal Pygmalion III**, born 8th September, 1923; s Pygmalion, d Highfield Princess Royal IV, s d Pamber President.

R.—Captain JOHN SHERARD REEVE, Leadenham House, near Lincoln, **Leadenham Envoy** (B.751), born 3rd August, 1923; s Swinton Mirror (B.402), d Leadenham Turvey 10th (1560), s d Pamber Paragon (B.23411).

H.C.—W. F. SHERRIFF, Ascots, Hatfield, Herts, **Ascots Prince** (B.1052), born 8th January, 1924; s Eaton Benefactor (26198), d Ascots Princess (S.4104), s d Minley Exile (24161).

CLASS 202.—*Berkshire Boar, not exceeding 18 months old.* [15 entries.]

I. (£7.)—JOHN D. PLAYER, Lenton, Nottingham, **Highfield Baron III** (H.B., B.1417), born 3rd January, 1925, bred by Frank Townend, Highfield, Moor-Allerton; s Highfield Marina Baronet 3rd (H.B., B.1109), d Highfield Princess Royal 4th (H.B., S.1405), s d Pamber President (H.B.22702).

II. (£4.)—FRANK TOWNEND, Highfield, Moor-Allerton, Leeds, **Highfield Roy Pygmalion**, born 2nd January, 1925; s Highfield Royal Pygmalion III, d Highfield Marina II, s d Pamber President.

III. (£2.)—SLADE AND MEERTON, Willards Hill, Etchingham, Sussex, **Willards Manhattan**, born 7th May, 1925; s Pamber Ace of Spades (25757), d Hillfoot Monica (5093), s d Murrell Hottentot X (588).

R.—T. CHETTL (for Reading Corporation), Manor Farm, Whitley, Reading, **Whitley Billon** (B.1620), born 22nd March, 1925; s Murrell Binky (21236), d Whitley Vaila II (S.1693), s d Murrell Binky (21236).

H.C.—R. W. CARSON, Lea Hall, Hatfield Heath, Harlow, **President Elect**, born 5th April, 1925, bred by Mrs. Nagle, Amesbury, Wilts; s Pamber President, d Pamber Plunkette (22700).

C.—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, **Basildon Pioneer**, born 2nd January, 1925; s Jamaica Frederick (23658), d Manor Sweet Bess (S.3597), s d Iwerne First Grade (23231).

* Given by the British Berkshire Society for the best Berkshire Boar in Classes 201 or 202, to be won twice in succession or three times in all before becoming the property of the Exhibitor.

CLASS 203.—*Berkshire Breeding Sow, exceeding 18 months old.*
[14 entries.]

I. (£10).—Lady FITZGERALD, Buckland, Faringdon, Berks, **Buckland Killon** (5257), born 4th September, 1924; s Basildon Lion 1st (26109), d Buckland Kashmir (1410), s d Lord Kirkham (19989).

II. (£5).—W. F. SHERRIFF, Ascots, Hatfield, Herts, **Ascots Princess 2nd** (S.4109), born 8th January, 1924; s Eaton Benefactor (26198), d Ascots Princess (S.4104), s d Minly Exile (24161).

III. (£2).—FRANK TOWNEND, Highfield, Moor-Allerton, Leeds, **Highfield Marina**, born 23rd May, 1922; s Pamber President, d Manor Marina, s d Braishfield Buck.

R.—LAURENCE CURRIE, Minley Manor, Farnborough, Hants, **Minley Millicent** (S.2814), born 4th January, 1923; s Minley Bruno (24954), d Minley Musk III (S.145), s d Manor Clipper (22563).

H.C.—HON. VICARY GIBBS, Aldenham House, Elstree, Herts, **'Benham Naomi**, born 7th October, 1924, bred by H. C. Sutton, Benham Park, Newbury, Berks; s Manor Goodenough, d Highclere Jewell, s d Suddon Boy.

C.—Lady FITZGERALD, Buckland, Faringdon, Berks, **Buckland Peach** (4792), born 8th October, 1923; s Basildon Lion 1st (26109), d Buckland Poppy 6th (19779), s d Buckland Thistle (17347).—T. CHETTLE (for Reading Corporation), Manor Farm, Whitley, Reading, **Whitley Nonsuch** (S.5326), born 11th January, 1924; s Whitley Bream (B.527), d Whitley Narceine (S.4413), s d Pamber Sarchedon (22686).

CLASS 204.—*Berkshire Breeding Sow, not exceeding 18 months old.*
[15 entries.]

I. (£7) and Challenge Cup†—FRIEND SYKES, Richings Park, Colnbrook, Bucks, **Richings Carnation Beauty III** (5228), born 22nd January, 1925; s Heale 'Nutmeg II (26448), d Monk Beauty VI (25844), s d Dunmanor Warrior 1st (24006).

II. (£4) and Reserve for Challenge Cup†—FRANK TOWNEND, Highfield, Moor-Allerton, Leeds, **Highfield Princess Royal XXIV**, born 3rd January, 1925; s Highfield Marina Baronet III, d Highfield Princess Royal IV, s d Pamber President.

III. (£2).—Ditto, ditto, born 2nd January, 1925; s Highfield Royal Pygmalion, d Highfield Marina II, s d Pamber President.

R.—R. W. CARSON, Lea Hall, Hatfield Heath, Harlow, Essex, **Forest Duchess 4th**, born 23rd January, 1925; s Pamber Gay Crusader (25740), d Murrell Royal Duchess 2nd (S.2540).

H.C.—Ditto, ditto, **Promise**, born 5th April, 1925, bred by Mrs. Nagle, Amesbury, Wilts; s Pamber President, d Pamber Plunkette (22700).

C.—Mrs. C. S. OLIVER, Whitmore Lodge, Sunninghall, Berks, **Whitmore Honour**, born 17th March, 1925; s Herriard Columbus 2nd (24873), d Woodhouse Fashion (3690).

C.—The Hon. Mrs. BRUCE WARD, Godinton, Ashford, Kent, **Godinton Daisy**, born 17th March, 1926; s Hammonds Beau (B.1041), d Forest Daisy (S.2051), s d Forest John (B.507).

† Given by the British Berkshire Society for the best Berkshire Sow in Classes 203 or 204. A Silver Medal will be awarded to the Breeder of the prize-winning animal.

LARGE BLACK.

(£20 towards the Prizes in these Classes and the Champion Prizes were given by the Large Black Pig Society).

CLASS 205.—*Large Black Boar, farrowed before May 1st, 1925.*
[4 entries.]

I. (£10) and Champion*—H. J. WATSON, Hermongers, Rudgwick, Sussex, **Hermongers Good Boy 2nd** (26155), born 9th February, 1923; s Drayton Champion Lad 1st (16447), d Hermongers Lass 4th (69874), s d Moorland Pride (7751).

II. (£5.)—TERAH F. HOOLEY, Dry Drayton, near Cambridge, **Runtley John I** (27113), born 1st February, 1923, bred by Stuart Nuthall, Sutton Green, Guildford; s Cornwood Marvel 2nd (15831), d Maxwelltown Lassie 25th (56892), s d Tinten King John II (12489).

CLASS 206.—*Large Black Boar, not exceeding 12 months old on May 1st, 1926.* [4 entries.]

I. (£7.)—The MARQUESS OF AILESBURY, D.S.O., The Home Farm, Savernake Forest, Wilts, **Savernake That's That** (B.575), born 16th May, 1925; s Savernake Forest Ranger (25517), d Savernake Dorace (130994), s d Tupsley Conqueror (19623).

II. (£4.)—ALFRED PLAYLE, Bassingbourn, Cambridge, **Fowlmere Black Boy 1st** (B.669), born 1st July, 1925, bred by W. C. Jackson, Fowlmere, Royston, Herts; s Docking Sonny (A.851), d Docking Black Bess 3rd (A.3982), s d Docking Leader (25805).

III. (£2.)—TERAH F. HOOLEY, Dry Drayton, near Cambridge, **Drayton Jack Horner** (B.713), born 20th May, 1925; s Drayton Doctor (A.1233), d Dargate Senora 56th (73826), s d Westow Hengist II (16053).

V.H.C.—WILLIAM KITTO, Bancroft, Cottred, Buntingford, Herts, **Luffenhall Rival** (B.753), born 15th October, 1925; s Lydsing Lysander (A.135), d Luffenhall Rhoda 17th, s d Tartar (A.22277).

CLASS 207.—*Large Black Boar, farrowed in 1926.* [4 entries.]

I. (£7) and Reserve for Champion*—W WOOLLAND, Baydon Manor, Ramsbury, Wilts, **Baydon General**, born 21st January; s Valley General (25401), d Molly of Moulton (93954), s d Streetly Victor 2nd (11577).

II. (£4.)—TERAH F. HOOLEY, Dry Drayton, near Cambridge, **Drayton Lochar** (C.9), born 2nd January; s Drayton Sunstar (30449), d Thelveton Best Girl (88858), s d Docking Desmond (17563).

III. (£2.)—W. WOOLLAND, Baydon Manor, Ramsbury, Wilts, **Baydon Emperor 1st**, born 23rd January; s Valley General (25401), d Ambo Empress (82184), s d Trevisquite Lord of the Manor (13045).

V.H.C.—H. J. WATSON, Hermongers, Rudgwick, Sussex, **Hermongers Duke 2nd**, born 21st January; s Hermongers Good Boy 2nd (26155), d Hermongers Duchess 10th (A.4690), s d Valley All Right (27261).

* A Silver Medal for the best Animal in Classes 205 to 207.

lxxviii *Prizes awarded to Large Black and Large White Pigs.*

CLASS 208.—Large Black Breeding Sow, farrowed before May 1st, 1925. [5 entries.]

I. (£10) and Reserve for Champion†—W. WOOLLAND, Baydon Manor, Ramsbury, Wilts, **Molly of Moulton** (93934), born 24th January, 1922, bred by Northampton Institute; s Streetly Victor 2nd (11577), d Chipston Moultona (66804), s d Docking Clipston (10815).

II. (£5.)—H. J. WATSON, Hermongers, Rudgwick, Sussex, **Hermongers Harriet 1st** (78498), born 3rd January, 1922; s Drayton Champion Lad 1st (16447), d Havey Hettie (31832), s d Hasketon Miller (8143).

III. (£2.)—WILLIAM KITTOW, Bancroft, Cottered, Buntingford, Herts, **Luffenhall Rhoda 17th** (118436), born 24th February, 1923; s Tartar (A.22277), d Luffenhall Rhoda 3rd (68974), s d Cornwood Luffenhall Naik (13691).

V.H.C.—ALFRED PLAYLE, Bassingbourn, Cambridge, **Bassingbourn Lady Nora** (79678), born 8th July, 1921; s Kedington Ringleader (15851), d Bassingbourn Countess I (20832), s d Cleave General (6367).

CLASS 209.—Large Black Breeding Sow, not exceeding 12 months old on May 1st, 1926. [3 entries.]

I. (£10) and Champion†—ALFRED PLAYLE, Bassingbourn, Cambridge, **Fowlmere Black Bess** (B.1962), born 1st July, 1925, bred by W. C. Jackson, Fowlmere, Royston, Herts; s Docking Sonny (A.851), d Docking Black Bess 3rd (A.3982), s d Docking Leader (25805).

II. (£5.)—TERAH F. HOOLEY, Dry Drayton, near Cambridge, **Drayton Delusion** (B.2222), born 20th May, 1925; s Drayton Doctor (A.1233), d Grendon Ravenspool 1st (114232), s d Pooley Moonshine (14621).

III. (£2.)—H. J. WATSON, Hermongers, Rudgwick, Sussex, **Hermongers Harriet 18th**, born 3rd July, 1925; s Hermongers Lord 3rd (A.589), d Hermongers Harriet 1st (78498), s d Drayton Champion Lad 1st (16447).

LARGE WHITE.

(£10 towards the Prizes in these Classes and the Champion Prize were given by the National Pig Breeders' Association).

CLASS 210.—Large White Boar, farrowed before 1926. [6 entries.]

I. (£10) and Champion*—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, **Turk of Aldenham**, born 5th March, 1922, bred by the Essex County Council, Boxted, Colchester; s Turk of Bottesford (27417), d Boxted Ada (65052), s d Lion Heart of Caldmore (20929).

II. (£5) and Reserve for Champion*—J. RACKLEY AND SONS, Hermitage Farm, Silver Street, Edmonton, N.18, **Bourne King David 51st** (47547), born 16th July, 1923, bred by Edmund Wherry, Bourne, Lincs.; s Bourne King David (34437), d Bourne Bonetta (64892), s d Bourne Bandmaster 50th (22071).

† A Silver Medal for the best Animal in Classes 208 or 209.

* A Gold Medal for £5 or the Best Animal in Classes 210 to 213.

III. (£2.)—W. WHITE AND SONS, Pool Farm, Taunton, Somerset, **Taunton Emperor 2nd** (37751), born 2nd January, 1922; s Taunton Emperor (34227), d Taunton Amy 5th (81428), s d Histon Snowman (24047).

R.—STAFFORD ALLEN AND SONS, LTD., Long Melford, Suffolk, **Melford Monitor** (53253), born 11th September, 1924; s Monitor of Melford (48493), d Boxted Belle 5th (65092), s d Bourne Cantab (26069).

CLASS 211.—*Large White Boar, farrowed in 1926.* [11 entries.]

I. (£7.)—W. WHITE AND SONS, Pool Farm, Taunton, **Taunton Champion Gay 6th** (Vol. 43), born 2nd January; s Taunton Champion Gay 3rd (53683), d Histon Mossrose 8th (147148), s d Gay of Histon (37227).

II. (£4.)—STAFFORD ALLEN AND SONS, LTD., Long Melford, Suffolk, **Melford Kingmaker 30th**, born 1st January; s Boxted Kingmaker 4th (28943), d Melford Lassie 2nd (107192), s d Melford Turk (30023).

III. (£2.)—J. RACKLEY AND SONS, Hermitage Farm, Silver Street, Edmonton, N.18, **Edmonton Turk 6th**, born 5th January; s Bushes Turk 16th (47715), d Edmonton Pride (90160), s d Chester Sam.

R.—Brigadier-General Viscount HAMPDEN, K.C.B., C.M.G., The Hoo, Welwyn, **Kimpton Dawn**, born 7th January; s Bourne King David 135th, d Forest Amy 7th, s d Copped Hall Conrad (33289).

CLASS 212.—*Large White Breeding Sow, farrowed before 1926.* [10 entries.]

I. (£10.)—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, **Aldenhams Belle 41st** (127606), born 3rd August, 1923; s Bourne Cantab (26069), d Histon Belle 39th (90764), s d Histon Eastern Turk (26683).

II. (£5.)—J. RACKLEY AND SONS, Hermitage Farm, Silver Street, Edmonton, N.18, **Bourne Bonetta 27th** (103300), born 1st January, 1923, bred by E. Wherry Bourne, Lincs.; s Bourne Champion Boy (33091), d Bourne Bonetta 6th (76950), s d Baron of Bourne (28633).

III. (£2.)—W. WHITE AND SONS, Pool Farm, Taunton, Somerset, **Taunton Barbara 8th** (93114), born 12th August, 1921; s Taunton Araby 3rd (27325), d Copped Hall Barbara (53058), s d Worsley Turk 70th (20429).

R.—R. P. HAYNES, Delves Green Farm, Wednesbury, **Forest Jewel 3rd** (105144), born 27th July, 1923, bred by R. W. Carson, Lea Hall, Hatfield Heath, Harlow; s Forest King John (36973), d Jewel of Forest (91086), s d Turk of Bottesford (27417).

H.C.—STAFFORD ALLEN AND SONS, LTD., Long Melford, Suffolk, **Melford Bertha 4th** (107152), born 3rd January, 1923; s Dalmeny A.E. (36777), d Melford Bertha (79822), s d Sundon Dick 3rd (22775).

CLASS 213.—*Pair of Large White Breeding Sows, farrowed in 1926.* [9 entries.]

I. (£7.)—J. RACKLEY AND SONS, Hermitage Farm, Silver Street, Edmonton, born 2nd January; s Bushes Turk 16th (47715), d Bushes Irene 26th (103742), s d Copped Hall Conrad (33289).

lxxx Prizes awarded to Large White and Middle White Pigs.

II. (£4).—STAFFORD ALLEN AND SONS, LTD., Long Melford, Suffolk, **Melford Stella and Melford Stella 2nd**, born 1st January; s **Boxted Kingmaker 4th** (28943), d **Melford Lassie 2nd** (107192), s d **Melford Turk** (30023).

III. (£2).—W. WHITE AND SONS, Pool Farm, Taunton, Somerset, **Taunton Mossrose 4th and 5th** (Vol. 43), born 2nd January; s **Taunton Champion Gay 3rd** (53683), d **Histon Mossrose 8th** (147148), s d **Gay of Histon** (37227).

R.—Brigadier-General Viscount HAMPDEN, K.C.B., C.M.G., The Hoo, Welwyn, **Kimpton Dawning and Kimpton Dawning 2nd**, born 7th January; s **Bourne King David 135th**, d **Forest Amy 7th**, s d **Copped Hall Conrad** (33289).

H.C.—R. A. AYRE, Bushey Lodge, Watford, born 8th January; s **Wonder of Watford 11th** (30963), d **Cuckmans Betty** (110546), s d **Histon Snowman 5th** (33655).

MIDDLE WHITE.

(£15 towards the Prizes in these Classes and the Champion Prizes were given by the National Pig Breeders' Association).

CLASS 214.—Middle White Boar, farrowed before 1926. [16 entries.]

I. (£10) and Champion *.—Mrs. VICTOR HAYWARD, Bookham Grove, Bookham, Surrey, **Bookham Super Tax** (54231), born 12th January, 1924; s **Caldmore Super Tax** (43545), d **Beenham Choice** (94432), s d **Pendley of Beenham** (35555).

II. (£5) and Reserve for Champion*.—LEOPOLD C. PAGET, Middlethorpe Hall, York, **Wharfedale Clinker**, born 18th January, 1924; s **Illuminator of Wharfedale**, d **Wharfedale Phosphorine**, s d **Wharfedale Neptune**.

III. (£2).—Mrs. SOFER WHITBURN, Amport St. Mary's, Amport, Andover, **Amport Scotty** (54143), born 3rd July, 1924; s **Scotty of Norsbury** (46323), d **Yateley Medina** (127256), s d **Norsbury Valour** (32099).

R.—The BOROUGH OF WATFORD, Holywell Farm, Watford, Herts, **Salts Deliverance 9th** (55147), born 5th August, 1925, bred by Arthur Lency, Salts Place, Loose, Kent; s **Wharfedale Deliverance** (32575), d **Yateley Harpy** (144594), s d **Salopian of Prestwood** (32315).

V.H.C.—W. H. HILL, Bushbury Hall, Wolverhampton, born 11th January, 1925, bred by R. P. Haynes, Delves Green Farm, Wednesbury; s **Shanstone Deliverance** (46343), d **Caldmore Rosadora** (112826), d **Histon Rover** (28075).

H.C.—Viscount LEWISHAM and Major W. LEWELLEN PALMER, M.C., Godmersham Park, Canterbury, **Godmersham Apollo 15th**, born 1st January, 1925; s **Apollo of Wharfedale** (43133), d **Histon Lady Holly 5th** (97288), s d **Histon Woodman** (28099).

C.—R. P. HAYNES, Delves Green Farm, Wednesbury, **Wishaw Don** (51823), born 2nd February, 1924, bred by W. J. Edkins, Langley Grove, Erdington; s **Don of Wishaw** (38469), d **Wishaw Grace 2nd** (87880), s d **Sheffield** (32353).

CLASS 215.—Middle White Boar, farrowed in 1926. [26 entries.]

I. (£7).—Mrs. SOFER WHITBURN, Amport St. Mary's, Andover, Hants, born 5th January; s **Brockencote Prince 15th** (43475), d **Nenturie Choice 2nd** (120796), s d **Norsbury Scotty** (39197).

* A Gold Medal or £5 for the best Animal in Class 214 or 215.

II. (£4.)—Major **PIGOTT and PARTNERS**, Hill Place Farm, Knaphill, Surrey, **Burningfold Revel**, born 2nd January; s **Prestwood Revel** 2nd (Vol. 42), d **Hagaria** of **Burningfold** 2nd (Vol. 41), s d **Southmoor Resolute** (39485).

III. (£2.)—Mrs. R. M. **FOOT**, White Hill, Berkhamsted, Herts, born 14th January; s **Hammonds Herald** (44353), d **Heather of Pendley** (117042), s d **Pendley of Beenham** (35555).

R.—Mrs. **HAYES SADLER**, Little Hallingbury Park, Bishops Stortford (Ear No. 994), born 11th January; s **Caldmore Revel Deliverance**, d **Pendley Perfection** 25th, s d **Hawthorn Sultan** (38741).

V.H.C.—W. **WOOLLAND**, Baydon Manor, Ramsbury, Wilts, born 7th January; s **Ramsbury Hero** 2nd (51101), d **Sidbury Evelyn** 2nd (142260), s d **Sidbury Corinthian** (46419).

H.C.—Brigadier-General B. **ATKINSON**, C.B., C.M.G., Manningtree, Essex, **Mistley Herald** (Vol. 43), born 4th January; s **Hawthorn Sultan** 15th (54669), d **Mistley Ningthingale** 6th (139442), s d **Wharfedale Frost** (32579).

C.—**ARTHUR LENEY**, Salts Place, Loose, Kent (Ear No. 420), born 1st January; s **Wharfedale Deliverance** (32575), d **Salts Bettina** 2nd (141672), s d **Councillor of Wharfedale** (46505).

CLASS 216.—Middle White Breeding Sow, farrowed before 1925.
[22 entries.]

I. (£10) and **Champion†** Mrs. **HAYES SADLER**, Little Hallingbury Park, Bishops Stortford, **Norsbury Welcome** 5th, born 5th January, 1923; s **Scotty** of **Norsbury** (46323), d **Histon Welcome** 9th (7454), s d **Histon Halo** (25339).

II. (£5.) **IAN RONALD PURDIE**, Cherry Tree Farm, Great Kingshill, High Wycombe, Bucks, **Pasture Grande Dame**, born 7th March, 1923, bred by M. Buckley, Woodchurch, Kent; s **Histon Milpond**, d **Cropwell** (527), s d **Wharfedale Satisfaction**.

III. (£2.)—**ARTHUR LENEY**, Salts Place, Loose, Kent, **Pullington Pamela** (122628), born 1st January, 1923, bred by R. A. S. Mitchison; s **Sunhill Swell** (35807), d **Horden Patricia** (56804), s d **Sundon Mee** (23231).

III Extra (£2.)—Mrs. R. M. **FOOT**, White Hill, Berkhamsted, Herts, **Heather of Pendley** (117042), born 6th August, 1922, bred by Captain W. Waring, Beenham House, Berkshire; s **Pendley of Beenham** (35555), d **Beenham Dongola** 2nd (82372), s d **Pendley** (32183).

R.—Brigadier-General B. **ATKINSON**, C.B., C.M.G., Manningtree, Essex, **Mistley Garland** 66th (139420), born 17th July, 1923; s **Olim** of **Mistley** (45687), d **Mistley Garland** 6th (98810), s d **Wharfedale Frost** (32579).

V.H.C.—**ARTHUR LENEY**, Salts Place, Loose, Kent, **Salts Bettina** 5th (141678), born 12th August, 1921; s **Councillor of Wharfedale** (46505), d **Wharfedale Bettina** (87674), s d **Wharfedale Delightful** (28335).

H.C.—**S. BIDE AND SONS, LTD.**, Pedigree Pig Farm, Farnham, Surrey, **Compton Snowflake** 4th, born 16th July, 1923; s **Dasher** of **Compton** (38457), d **Beenham Snowflake** (83426), s d **Pendley Swell** (32183).—Viscount **LEWISHAM** and Major W. **LLEWELLYN PALMER**, M.C., Godmersham Park, Canterbury, **Godmersham Rosebud** 8th, born 8th January, 1924; s **Apollo** of **Wharfedale** (43133), d **Histon Rosebud** 13th (84712), s d **Histon Shrewsbury** 2nd (28081).—Major **PIGOTT and PARTNERS**, Hill Place Farm, Knaphill, Surrey, **Whitehill**

† A Gold Medal or £5 for the best Animal in Classes 216 to 218.

Hagar's Choice 10th, born 19th January, 1924, bred by Mrs. Foot, Whitehill, Berkhamstead; s Hammonds Hasty (44349), d Hammonds Choice (116534), s d Wharfedale Hector.

C.—THOS. H. SOCHON, Tanfield Tye, West Hanningfield, Chelmsford, **Hawthorn Choice 28th**, born 24th January, 1924, bred by Hawthorn Herds, Ltd. (W. J. Morton), Northwood, Middlesex; s Hammonds Herald (44353), d Hawthorn Choice 9th (116844), s d Woodman of Hawthorn (39751).

CLASS 217.—Middle White Breeding Sow, farrowed in 1925.
[21 entries.]

I. (£7.) and Reserve for Champion†—**ARTHUR LENEY**, Salts Place, Loose, Kent, **Pendley Lady Holly** (153742), born 8th January, bred by Bishop and Measures, Pendley Stock Farms, Tring; s Brockencote Prince 15th (43475), d Histon Lady Holly 17th (137584), s d Swell of Histon (39559):

II. (£4.)—**MRS. SOFER WHITBURN**, Aimpot St. Mary's, Andover, Hants, **Ampot Peerless 5th** (Vol. 43, 821), born 11th January; s Histon Rover 50th (44585), d Ampot Peerless 3rd (133090), s d Scotty of Norsbury (46323).

III. (£2.)—**RALPH ANTHONY STURGESS MITCHISON**, Pullington, Benenden, near Cranbrook, Kent, **Pullington Camellia**, born 4th February; s Pullington Jacob, d Pullington Pansy, s d Wharfedale Jamieson 3rd.

R.—Viscount LEWISHAM and **Major W. LLEWELLEN PALMER, M.C.**, Godmersham Park, Canterbury, **Godmersham Holly 14th**, born 1st January; s Apollo of Wharfedale (43133), d Histon Lady Holly 5th (97288), s d Histon Woodman (28099).

V.H.C.—Brigadier-General B. ATKINSON, C.B., C.M.G., Manningtree, Essex, **Mistley Cheerful 41st** (Vol. 43), born 6th March; s Mistley Deceiver (50735), d Mistley Cheerful 36th (153228), s d Mistley Miller (45639).

H.C.—W. H. HILL, Bushbury Hall, Wolverhampton, **Ayle Venetia** (Vol. 42, 890), born 26th February, bred by Industrial Settlements (Incorp.); s Boaz of Peene (25169), d Norsbury Venice 2nd (120914), s d Histon Wanderer 3rd (35191).—**LITTLE GREEN ESTATES Co.**, Hucksholt Farm, Harting, Petersfield, born 30th April, bred by Northcote Farms Co., Ltd., Shamley Green, Guildford; s Dunsfold Hermes, d Beenham Halfa.—**THE BOROUGH OF WATFORD**, Holywell Farm, Watford, Herts, **Wiggenhall Perfection 10th** (155382), born 7th January; s Pendley Councillor (39267), d Wiggenhall Grace 13th (87828), s d Manor France Trojan (28145).

CLASS 218.—Pair of Middle White Breeding Sows, farrowed in 1926.
[23 entries.]

I. (£7.)—**ARTHUR LENEY**, Salts Place, Loose, Kent (Ear Nos. 413 to 416), born 1st January; s Wharnccliffe Prince (32625), d Oxney Choice 5th (121344), s d Oxney Revel (35505).

II. (£4.)—**MRS. HAYES SADLER**, Little Hallingbury Park, Bishops Stortford, (Ear Nos. 968-967), born 6th January; s Caldmore Revel Deliverance, d Abberton Pamela 17th, s d Norsbury Scotty (39197).

III. (£2.)—**W. H. HILL**, Bushbury Hall, Wolverhampton, born 6th January; s Oxney Revel (35505), d Caldmore Rosadora 3rd (112830).

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R.—Mrs. **SOFER WHITEBURN**, Amport St. Mary's, Andover, Hants, born 5th January; s **Brookencote Prince** 15th (43475), d **Nenturie Choice** 2nd (120796), s d **Norsbury Scotty** (39197).

V.H.C.—Mrs. **R. M. FOOT**, White Hill, Berkhamsted, Herts, born 6th and 9th January; s **Hammonds Herald** (44353), d **Hammonds Choice** (116534), s d **Wharfedale Hector** (35879), and s **Pendley Don** (Vol. 42), d **Hagar of Pendley** (136726), s d **Hawthorn Rosadora** (44405).

H.C.—Mrs. **C. L. BOURNE**, Garston Manor, Watford, **Fortunes Perfection** with **Fortunes Sunbeam**, born 15th January; s **Windrudge Dandy**, d **Wattle Hopeful** 3rd, s d **Southmore Chief**. **R. P. HAYES**, Delves Green Farm, Wednesbury, born 2nd January, bred by **W. J. Edkins**, Langley Gorse, Erdington; s **Wishaw Don** (51823), d **Wishaw Grace** 5th (126816), s d **Prestwood Wishaw** (32229).—**J. A. H. STANSFIELD**, Bates, Wittersham, born 2nd January; s **Wharfedale Herod** (51687), d **Ayle Princess** (111422), s d **Acrobat of Albany** 2nd (38049).—The **BOROUGH OF WATFORD**, Hollywell Farm, Watford, Herts, **Wiggenhall Choice** 3rd and 4th (Vol. 43), born 14th January; s **Pendley Councillor** (39267), d **Hawthorn Choice** 31st (137078), s d **Hammonds Herald**.

C.—Mrs. **W. WOOLLAND**, Baydon Manor, Ramsbury, Wilts, born 3rd January; s **Illuminator of Wharfedale** (44935), d **Attestor Regina** 3rd (110680), s d **Sidbury Bold Baron** (35731).

TAMWORTH.

(£10 towards the Prizes in these Classes and the Champion Prize were given by the National Pig Breeders' Association).

CLASS 219.—Tamworth Boar, any age. [4 entries.]

I. (£10) and Champion*—THEO. A. STEPHENS, Frensham Manor, near Farnham, Surrey, **Neuburie Cayenne** (55579), born 17th June, 1924, bred by **Captain R. A. Angiers**, New Mousefield, Newbury, Berks; s **Knowle Bruce** (36013), d **Knowle Venus** (76210), s d **Basildon Max** (25683).

II. (£5.) and Reserve for Champion*—Major CHARLES J. H. WHEATLEY, Berkswell Hall, near Coventry, Warwickshire, **Berkswell Brone** (5194), born 12th August, 1924, bred by the late **J. H. Wheatley**, Berkswell Hall, Coventry; s **Knowle Brooklyn** (47121), d **Berkswell Judy** (144712), s d **Toby of Broomshields**.

III. (£2.)—J. A. H. STANSFIELD, Bates, Wittersham, Kent, **Algarthorpe Redbreast**, born 17th November, 1924, bred by **R. E. Parker**, Algarthorpe, Marlingford, Norfolk; s **Elmdene Wilfrid** (35993), d **Roxley Pickle** (76280), s d **Middleton Malkha** (25767).

CLASS 220.—Tamworth Breeding Sow, farrowed before 1926. [4 entries.]

I. (£10.)—THEO. A. STEPHENS, Frensham Manor, near Farnham, Surrey, **Knowle Mercy**, born 6th March, 1923, bred by the late **Robert Ibbotson**, s **Knowle Joseph** 2nd (39827), d **Knowle Queen Mary** (88118), s d **Knowle Dreadnought** (28419).

* A Gold Medal or £5 for the best Animal in Classes 219 to 221.

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Old Spots Pigs.*

II. (£5.)—Major CHARLES J. H. WHEATLEY, Berkswell Hall, Coventry, Warwickshire, **Berkswell Jenny** (144698), born 28th May, 1924, bred by the late J. H. Wheatley, Berkswell Hall; s Knowle of Newcastle (47143), d Jemina of Berkswell (102046), s d Putley Marcus (32749).

III. (£2.)—THEO. A. STEPHENS, **Knowle Felleity** (127406), born 10th October, 1922, bred by the late Robert Ibbotson; s Knowle Redstar (32713), d Knowle Favourite (76160), s d Basildon Max (25683).

R.—Major J. A. MORRISON, D.S.O., Basildon Park, Goring, near Reading, **Knowle Myrtle 2nd** (102078), born 12th July, 1922, bred by the late R. Ibbotson, Knowle, Warwickshire; s Knowle Bruce (36013), d Knowle Myrtle (88100), s d Knowle Dreadnought (28419).

CLASS 221.—*Pair of Tamworth Breeding Sows, farrowed in 1926.*
[2 entries.]

I. (£7.)—Major CHARLES F. H. WHEATLEY, Berkswell Hall, near Coventry, Warwickshire, born 7th January; s Wren of Berkswell, d Red Duchess of Berkswell, s d Knowle Nomen.

II. (£4.)—J. A. H. STANSFIELD, Bates, Wittersham, Kent, born 8th January, s Milton Redcap (55577), d Red Queen of Oxney (144798), s d Knowle Nomen (47145).

GLOUCESTERSHIRE OLD SPOTS.

(£20 towards the Prizes in these Classes were given by the Gloucestershire Old Spots Pig Society).

CLASS 222.—*Gloucestershire Old Spots Boar, farrowed before 1926.*
[6 entries.]

I. (£10.)—F. HAROLD TURNBULL, Lower House Farm, Llanwit Major, near Cardiff, **Llantwit Baron** (5555), born 30th December, 1924; s Llantwit Duke (5346), d Llantwit Beryl (15953), s d Stoke Hill Magnet (4516).

II. (£5.)—W. T. AND A. G. BAILEY, Grist House Farm, Hemel Hempstead, **Hempstead Jim 1st** (5586), born 3rd January, 1925; s Nashes Major 1st (4945), d Hempstead Daphne 2nd (17854), s d Clevehill Jim (4757).

III. (£2.)—JAMES D. BEAK, Maiden Bradley, Bath, **Maiden Bradley Judge**, born 10th May, 1925; s Clapcote Madoc (5413), d Maiden Bradley Maid 2nd (17491), s d Ashton Dapper (4627).

R.—SHERRIFF AND SONS, Lemsford, Hatfield, Herts, **Nashes Duke 8th** (5646), born 26th June, 1925; s Pevensey Bruce 1st (13597), d Nashes Duchess 12th (16229), s d Gilslake Soldier (3127).

CLASS 223.—*Gloucestershire Old Spots Boar, farrowed in 1926.*
[10 entries.]

I. (£7.)—SHERRIFF AND SONS, Lemsford, Hatfield, Herts, **Nashes Duke 10th** (5646), born 16th January; s Pevensey Bruce 1st (13597), d Nashes Duchess 10th (16227), s d Gilslake Soldier (3127).

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II. (£4.)—W. T. AND A. G. BAILEY, Grist House Farm, Hemel Hempstead, **Hempstead Jim 3rd** (5620), born 1st January; s Hempstead General (5498), d Hempstead Daphne 3rd (X540), s d Nashes Major 1st (4945).

III. (£2.)—Ditto, ditto, **Hempstead Spot** (5619), born 1st January; s Hempstead General (5498), d Hempstead Daphne 2nd (7854), s d Clevehill Jim (4757).

R.—Messrs. BENNETT AND HOWARD, Thornbury, Glos., **Thornbury Bernard** (5626), born 9th February; s Huntingford Dauntless (5475), d Thornbury Bar-sid (X232), s d Ayot Page (5069).

CLASS 224.—*Gloucestershire Old Spots Sow, farrowed before 1925.*
[6 Entries.]

I. (£10.)—JAMES D. BEAK, Maiden Bradley, Bath, **Maiden Bradley Maid**, born 10th March, 1923; s Ashton Dapper (4627), d Maiden Bradley Barmaid 2nd (14641), s d Maiden Bradley Champion 1st (3858).

II. (£5.)—SHERRIFF AND SONS, Lemsford, Hatfield, Herts, **Nashes Duchess 25th** (X495), born 5th July, 1924; s Dorset Diver (4401), d Nashes Duchess 13th (16230), s d Huntingford Polemarsh (4210).

III. (£2.)—W. T. AND A. G. BAILEY, Grist House Farm, Hemel Hempstead, **Hempstead Daphne 2nd** (17854), born 1st August, 1923; s Clevehill Jim (4757), d Southam Marguerite (7287), s d Gilslake Major (622).

R.—F. HAROLD TURNBULL, Lower House Farm, Llantwit Major, near Cardiff, **Llantwit Ruth** (17499), born 19th January, 1923; s Llantwit Boy (4361), d Huntingford Countess 3rd (12826), s d Ithells Major 2nd (2084).

CLASS 225.—*Gloucestershire Old Spots Breeding Sow, farrowed in 1925.* [7 entries.]

I. (£10.)—SHERRIFF AND SONS, Lemsford, Hatfield, Herts, **Nashes Duchess 35th** (X801), born 3rd July; s Pevensy Bruce 1st (13597), d Nashes Duchess 13th (16230), s d Thurtford Polemarsh (4210).

II. (£5.)—JAMES D. BEAK, Maiden Bradley, Bath, **Maiden Bradley Wonder**, born 10th May; s Clapcote Madoc (5413), d Maiden Bradley Maid 2nd (17491), s d Ashton Dapper (4627).

III. (£2.)—Messrs. BENNETT AND HOWARD, Thornbury, Gloucester, **Thornbury Bracelet** (X.762), born 3rd March; s Huntingford Dauntless (5475), d Thornbury Bar-six (X232), s d Ayot Page (5069).

R.—SHERRIFF AND SONS, **Nashes Duchess 26th** (X496), born 2nd January; s Nashes Premier 2nd (5423), d Nashes Duchess 12th (16229), s d Gilslake Soldier (3127).

CLASS 226.—*Pair of Gloucestershire Old Spots Breeding Sows, farrowed in 1926.* [10 entries.]

I. (£7.)—W. T. AND A. G. BAILEY, Grist House Farm, Hemel Hempstead, **Hempstead Daphne 6th and 7th** (X752 and X753), born 1st January; s Hempstead General (5498), d Hempstead Daphne 2nd (17854), s d Clevehill Jim (4757).

II. (£4.)—Ditto, Ditto, **Hempstead Daphne 8th and 9th** (X754 and X755), born 1st January; s Hempstead General (5498), d Hempstead Daphne 2nd (17854), s d Clevehill Jim (4757).

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III. (£2.)—SHERRIFF AND SONS, Lemsford, Hatfield, Herts, Nashes Duchess 31st and 32nd (X797 and X798), born 2nd January ; s Pevensey Bruce 1st (13597), d Nashes Duchess 20th (239), s d Dorset Diver (4401).

R.—JOHN H. WENHAM, Witley Manor, Witley, Surrey, Witley Poppy and Witley Pansy, born 24th January ; s Witley Polyphemus (5497), d Kingswood Josephine 7th (13351), s d Ithells Major 2nd.

CHAMPION PRIZES.

GIVEN THROUGH THE GLOUCESTERSHIRE OLD SPOTS PIG SOCIETY.

The Sir George Watson Challenge Cup, value £21, for the best Animal in Classes 222 to 226. [The Cup to be won three times by the same Exhibitor with different animals before becoming his own property.]

I.—JAMES D. BEAK, Maiden Bradley, Bath, Maiden Bradley Mald, born 10th March, 1923 ; s Ashton Dapper (4627), d Maiden Bradley Barmaid 2nd (14641), s d Maiden Bradley Champion 1st (3858).

R.—SHERRIFF AND SONS, Lemsford, Hatfield, Herts, Nashes Duchess 35th (X801), born 3rd July ; s Pevensey Bruce 1st (13597), d Nashes Duchess 13th (16230), s d Thurtford Polemarsh (4210).

The Deane-Drummond Cup, value £14 14s., for the best Boar in Class 222 or 223. [The Cup to be won twice by the same Exhibitor with different animals before becoming his own property.]

I.—F. HAROLD TURNBULL, Lower House Farm, Llantwit Major, near Cardiff, Llantwit Baron (5555), born 30th December, 1924 ; s Llantwit Duke (5346), d Llantwit Beryl (15953), s d Stoke Hill Magnet (4516).

R.—SHERRIFF AND SONS, Lemsford, Hatfield, Herts, Nashes Duke 10th (5645), born 16th January ; s Pevensey Bruce 1st (13597), d Nashes Duchess 10th (16227), s d Gilslake Soldier (3127).

GIVEN BY MESSRS. BENNETT AND HOWARD.

The Sir John Anderson Cup for the best Sow exhibited in Classes 224 to 226. [The Cup to be won three times by the same Exhibitor before becoming his own property, commencing with the 1926 Show.]

I.—JAMES D. BEAK, Maiden Bradley, Bath, Maiden Bradley Mald, born 10th March, 1923 ; s Ashton Dapper (4627), d Maiden Bradley Barmaid 2nd (14641), s d Maiden Bradley Champion 1st (3858).

R.—SHERRIFF AND SONS, Lemsford, Hatfield, Herts, Nashes Duchess 35th (X801), born 3rd July ; s Pevensey Bruce 1st (13597), d Nashes Duchess 13th (16230), s d Thurtford Polemarsh (4210).

WESSEX SADDLEBACK.

(£10 towards the Prizes in these Classes and the Gold Medal were given by the *Wessex Saddleback Pig Society*, and all pigs exhibited must have been entered or eligible for entry in that Society's Herd Book).

CLASS 227.—*Wessex Saddleback Boar, farrowed before 1926.* [7 entries.]

I. (£10) and Medal*—**DR. WILLIAM H. FORSHAW**, Slythehurst, Ewhurst, Guildford, Surrey, **Slythehurst Bar-None** (2336), born 2nd January, 1924; s Norman King Offa (219), d Slythehurst Bracken (4938), s d Ashe Mac II (680).

II. (£5.)—**DOUGLAS VICKERS**, Temple Dinsley, Hitchin, Herts, **Preston Senator I** (2765), born 24th July, 1925; s Oakley Prior (1678), d Preston Sunbeam I (7291), s d Norman King Offa (219).

III. (£2.)—**FRANK HARTOP**, Eaton Green, Luton, Beds, **Preston Dan** (2593), born 10th July, 1924, bred by D. Vickers, Temple Dinsley, Hitchin; s Preston Prince, d Offa Doreen, s d Offa Edmund.

R.—**DOUGLAS VICKERS**, **Piper's Adrian** (2243), born 3rd July, 1923, bred by H. G. Lakin, Piper's Hill, near Leamington; s Sherfield Shackleton (815), d Norman Peach (3353), s d Cattistock Deputy Master (460).

H.C.—**SIR ALFRED MOND**, Bart., Melchet Court, Romsey, Hants, **Melchet Duke** (2660), born 5th March, 1925; s Duke of Hemyock (1032), d Melchet Mary 15th (7219), s d Melchet Donegal (355).

G.—**G. R. SOUTHWELL**, Holbury Farm, Lockerley, Romsey, **Holbury Lucro** (2714), born 13th February, 1925; s Holbury Pilot (2516), d Holbury Leaf (11841), s d Godalming Mac (1337).

CLASS 228.—*Wessex Saddleback Boar, farrowed in 1926.* [10 entries.]

I. (£7.)—**DOLPHIN SMITH**, Mackrey End, Harpenden, **Harpenden Paul**, born 19th January; s Harpenden True Type, d Norman Romp.

II. (£4.)—**DR. WILLIAM H. FORSHAW**, Slythehurst, Ewhurst, Guildford, Surrey, **Barnaby of Slythehurst** (2741), born 6th January, bred by Oswald Ellis, Nurscombe, Bramley, Guildford; s Slythehurst Bar-None (2336), d Oakley Lydia VII (9419), s d Norman Polham (661).

III. (£2.)—**FRANK HARTOP**, Eaton Green, Luton, **Eaton**, born 4th January; s Preston Dan (2593), d Welwyn Nann 1st, s d Brandon Admiral.

R.—**ALEXANDER DUCKHAM**, Rooks Hill, near Sevenoaks, Kent, born 18th January; s Godalming Jupiter (1836), d Coker Sceptic (5901), s d Pearash Lennox.

H.C.—**DOUGLAS VICKERS**, Temple Dinsley, Hitchin, Herts, **Preston Solar** (2801, Vol. 9), born 3rd January; s Oakley Prior (1678), d Preston Sunstar I (12062), s d Royston Cicero (1530).

CLASS 229.—*Wessex Saddleback Breeding Sow, farrowed before 1926.* [18 entries.]

I. (£10) and Reserve for Medal*—**DOLPHIN SMITH**, Mackrey End, Harpenden, **Harpenden Empress**, born 2nd July, 1925; s Harpenden True Type, d Norman Romp.

* Gold Medal, value £5 5s., for the best Pig exhibited in Classes 227 to 230, and a Silver Medal to the Breeder who was not the exhibitor of the Animal winning the Gold Medal.

II. (£5.)—Lieut.-Colonel E. C. M. PHILLIPS, D.S.O., Earls Hill House, Royston, **Purbeck Topnote** (2256), born 30th October, 1920, bred by F. Batten, Romsey, Hants; s Cattistock Best Boy (160), d Purbeck Louise (758).

III. (£2.)—Dr. WILLIAM H. FORSHAW, Slythehurst, Ewhurst, Guildford, Surrey, **Eclipse of Slythehurst** (9390), born 4th August, 1923, bred by A. S. Williams, Morning Dawn, Ewhurst, Guildford, Surrey; s Slythehurst Forest King (1330), d Godalming Eclipse (5283), s d Oakley Tuesley (618).

R.—G. R. SOUTHWELL, Holbury Farm, Lockerley, Romsey, **Holbury Eva** (9876), born 15th January, 1923; s Godalming Mac (1337), d Holbury Eveline (5775), s d Norman Perfection (660).

V.H.C.—Lieut.-Colonel E. C. M. PHILLIPS, D.S.O., **Shillinglee Madrigal IV** (12258), born 3rd January, 1925, bred by F. Govage, Shiddingford, Surrey; s Norman of Shillinglee (1286), d Shillinglee Madrigal (5577), s d Slythehurst Royal Oak (934).

H.C.—FRANK HARTOP, Eaton Green, Luton, Beds, **Preston' Clover III**, born 6th January, 1925, bred by D. Vickers, Temple Dinsley, Hitchin; s Pipers Adrian (2243), d Royston Clara (6680), s d Norman King Offa.

C.—DOUGLAS VICKERS, Temple Dinsley, Hitchin, Herts, **Preston Vanity** (12206), born 10th July, 1924; s Preston Prince (1767), d Harpenden Vanity II (8531), s d Brooke Prince (625).—A. WEATHERHEAD, Redbourn Bury, St. Albans, **Harpenden Vanity** (8530), born 1st February, 1923, bred by Dolphin Smith, Mackrey End, Harpenden, Herts; s Brook Prince (625), d Harpenden Vain (3531), s d Burcombe Hero (320).

CLASS 230.—Pair of Wessex Saddleback Breeding Sows, farrowed in 1926. [9 entries.]

I. (£7.)—DOUGLAS VICKERS, Temple Dinsley, Hitchin, Herts (a) **Preston Sunny** (13163, Vol. 9), (b) **Preston Silky** (13162, Vol. 9), born 2nd January; (a) s Oakley Prior (1678), d Preston Sunny I (12066), s d Royston Cicero (1530); (b) s Pipers Adrian (2243), d Preston Stonia I (12198), s d Royston Cicero (1530).

II. (£4.)—Ditto, ditto, **Preston Leda I** (13164), and **II** (13165), born 14th January; s Pipers Adrian (2243), d Preston Lorna I (12195), s d Royston Cicero (1530).

III. (£2.)—G. R. SOUTHWELL, Holbury Farm, Lockerley, Romsey, born 4th February, bred by W. M. G. Singer, Norman Court, Salisbury; s Ayot Beau Brocade (1619), d Norman Oak (842), s d Norman Hero (27).

R.—Dr. WILLIAM H. FORSHAW, Slythehurst, Ewhurst, Guildford, Surrey, (a) **Slythehurst Tell-Tale**, (b) **Slythehurst Barmald**, born 6th and 20th January; s Slythehurst Bar-None (2336), (a) d Eclipse of Slythehurst (9390), s d Slythehurst Forest King (1330); (b) d Biddy of Slythehurst (12669), s d Norman of Shillinglee (1286).

V.H.C.—FRANK HARTOP, Eaton Green, Luton, Beds, **Eaton Valencia 1st** and **Eaton Valencia 2nd**, born 1st February; s Preston Dan (2593), d Offa Viola 3rd (10269), s d Mac of Offa.

H.C.—Sir ALFRED MOND, Bart., Melchet Court, Romsey, **Melchet Nitrate 53rd** and **Melchet Nitrate 54th**, born 1st January; s Melchet Premier (2452), d Melchet Nitrate 36th (10406), s d Melchet Donegal 4th (1182).

ESSEX.

(£15 towards the Prizes and the Silver Medal in these Classes were given by the Essex Pig Society, and all pigs exhibited must have been entered or eligible for entry in that Society's Herd Book).

CLASS 231.—*Essex Boar, farrowed before 1926.* [5 entries.]

I. (£10) and Medal*—A. J. COUSINS, Cressing Lodge, Braintree, Essex, **Roothing Laughter** (2607), born 8th January, 1925, bred by W. Ritchie, Marks Hall, Margaret Roding, Essex: s Tewes Laughter (1955), d Howletts Betty 5th (3244), s d Barnston Claudius 1st (7).

II. (£5.)—WILLIAM RITCHIE, Marks Hall, Margaret Roding, near Dunmow, Essex, **Tewes Laughter**, born 10th August, 1923, bred by W. C. V. Schwier, Tewes Farm, Sampford, Essex; s Tillyfour Angus, d Cressing Diana 15th. s d Cressing Hopeful.

CLASS 232.—*Essex Boar, farrowed in 1926.* [6 entries.]

I. (£7.)—A. J. COUSINS, Cressing Lodge, Braintree, Essex, born 5th January: s Roothing Laughter (2607), d Cressing Duchess 51st (13760), s d Cressing Angus 2nd (1839).

II. (£4.)—Ditto, ditto, born 7th January; s Roothing Laughter (2607), d Cressing Duchess 36th (10252), s d Tillyfour Angus (811).

III. (£2.)—WILLIAM RITCHIE, Marks Hall, Margaret Roding, near Dunmow, Essex, born 2nd January; s Roothing Generosity, d Tewes London Pride, s d Brook Masterpiece 8th.

V.H.C.—CHAS. COUSINS, Stisted, Braintree, Essex, born 3rd January.

CLASS 233.—*Essex Breeding Sow, farrowed before 1926.* [6 entries.]

I. (£10) and Reserve for Medal*—A. J. COUSINS, Cressing Lodge, Braintree, Essex, **Cressing Charity 11th** (11086), born 6th August, 1923: s Tillyfour Angus (811), d Cressing Charity (1358), s d Peace Benjamin (83).

II. (£5.)—Ditto, ditto, **Fryerning Folly 3rd** (3134), born 22nd January, 1921, bred by E. H. Sikes, Fryerning Grange, Ingatstone, Essex; s Barnston Claudius 1st (7), d Rutlands Bridget (648).

III. (£2.)—CHAS. COUSINS, Stisted, Braintree, Essex, **Bouchiers Erastian** (14524), born 6th January, 1925, bred by E. W. King, Coggeshall, Essex: s Peace Governor (1971), d Bouchier's Empress (14518).

CLASS 234.—*Pair of Essex Breeding Sows, farrowed in 1926.* [3 entries.]

I. (£7.)—CHAS. COUSINS, Stisted, Braintree, Essex, born 4th January: s Starling Diorite, d Bressingham Tulip 2nd (11996).

II. (£4.)—Ditto, ditto, born 3rd January: s Peace Huckster (2601), d Peace Farewell (5466).

* Silver Medal for the best Pig exhibited in the Essex Pig Classes.

LONG WHITE LOP-EARED.

(£20 towards the Prizes in these Classes were given by the Long White Lop-Eared Pig Society).

CLASS 235.—*Long White Lop-Eared Boar, farrowed on or before October 1st, 1925.* [5 entries.]

I. (£10.)—J. H. BICKELL, Lumburn Farm, Tavistock, Devon, **Priory Millman** (878), born 24th May, 1924; s Forda Marvel (268), d Priory Millmaid (1149).

II. (£5.)—H. E. BENNETT, Holt Castle Farm, near Worcester, **Netherton Earl King** (790), born 16th February, 1924, bred by S. Ward; s Anderton Consideration (244), d Netherton Emsie (5953), s d Quither General (2).

III. (£2.)—CHIVERS AND SONS, LTD., Histon, Cambridge, **Yealmpstone Ben 5th**, born 26th January, 1925, bred by H. W. Neal, Yealmpston Farm, Plympton, S. Devon; s Netherton Earl King (790), d Yealmpston Princess (73), s d Wizaller Bacon Bay (38).

R.—DOLPHIN SMITH, Mackrev End, Harpenden, Herts, **Offing Bar-none**, born 2nd January, 1925, bred by Stanley White, Hammond's End, Harpenden; s Priory Jumbo, d Waddeton Offing Anna.

CLASS 236.—*Long White Lop-Eared Boar, farrowed since October 1st, 1925.* [3 entries.]

I. (£7.)—W. J. WESTLAKE, Godwell, Ivybridge, S. Devon, **Godwell Surveyor**, born 3rd October, 1925; s Lukeland Hero (342), d Godwell Optional (1969).

II. (£4.)—J. H. BICKELL, Lumburn, Tavistock, Devon, **Lumburn Leader**, born 10th October, 1925; s Collins Jumbo, d Lumburn Lily 8th.

III. (£2.)—HENRY J. KINGWELL, Bow Grange, Totnes, Devon, **Devonshire Sunstar**, born 3rd October, 1925; s Yealmpstone Sunday (958), d Devonshire Duchess (2165), s d Ippelen White Heather (255).

CLASS 237.—*Long White Lop-Eared Sow, any age, in farrow, or with farrow not exceeding 8 weeks old on first day of Show.* [6 entries.]

I. (£10.)—J. H. BICKELL, Lumburn, Tavistock, Devon, **Lumburn Lassie III**, born 14th January, 1925; s Sidcutt Joey (690), d Bickleigh Lily (1517).

II. (£5.)—H. E. BENNETT, Holt Castle Farm, near Worcester, **Godwell Lady** (2985), born 2nd March, 1924, bred by W. J. Westlake; s Lukeland Hero (342), d Yealmpstone Princess 5th (411), s d Quither General (2).

III. (£2.)—CHIVERS AND SONS, LTD., Histon, Cambridge, **Forda Princess** (3213), born 1st September, 1923, bred by Alfred A. Partridge, Mordref, Plympton, Devon; s Erme General (166), d Erme Princess (8677).

R.—ARCHIBALD HART, Risingholme, Heathfield, E. Sussex, **Heathfield Harborton** (2079), born 14th September, 1923; s Devonshire Snowman (398), p Harborton Blonde (795), s d Netherton Gay Boy (18).

CLASS 238.—Long White Lop-Eared Sow, farrowed since March 1st, 1925. [5 entries.]

I. (£7.)—J. H. BICKELL, Lumburn, Tavistock, Devon, **Lumburn Lily 4th**, born 3rd July, 1925; s Sidcutt Joey (690), d Bickleigh Lily (1517).

II. (£4.)—W. J. WESTLAKE, Godwell, Ivybridge, S. Devon, **Godwell Lassie 8th** (3955), born 9th March, 1925; s Ipplepen Sultan (552), d Yealmpstone Princess 5th (411), s d Quither General 2nd.

III. (£2.)—Ditto, ditto, **Godwell Lassie 7th** (3853), born 9th March, 1925; s Ipplepen Sultan (552), d Yealmpstone Princess 5th (411), s d Quither General 2nd.

R.—CHIVERS AND SONS, LTD., Histon, Cambridge, born 4th March, 1925, bred by H. E. Bennett, Hawkenbury, Staplehurst, Kent: s Netherton Erle King (790), d Yealmpstone Duchess 9th (2607), s d Yealmpstone Right Sort 164).

CLASS 239.—Pair of Long White Lop-Eared Breeding Sows, farrowed in 1926. [2 entries.]

I. (£7.)—W. J. WESTLAKE, Godwell, Ivybridge, S. Devon, **Godwell Butterfly's 3rd and 4th**, born 9th January; s Yealmpstone Ben, d Godwell Beauty 1st (3763), s d Ipplepen Sultan (552).

II. (£4.)—J. H. BICKELL, Lumburn Farm, Tavistock, Devon, born 8th January.

BACON PIGS.

CLASS 240.—Pair of Pigs of any breed or first cross [the cross to be stated] between 9 score 10lbs. and 11 score 10lbs., live weight each, best suitable for the Wiltshire cut of Bacon. [7 entries.]

I. (£7.)—STAFFORD ALLEN AND SON, LTD., Long Melford, Suffolk, large whites; s Boxted Kingmaker 4th (28743).

II. (£4.)—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, Large White; s Aldenham Bertha's Boy (39921), d Coton Catalina 6th (104218), s d Mangapp Light Man 3rd (37355).

III. (£2.)—J. RACKLEY AND SONS, Hermitage Farm, Silver Street, Edmonton, Large and Middle White, born 7th November, 1925; s Large White, Edmonton Turk 5th, d Middle White, Edmonton Rose.

All Pigs in this Class were purchased at the current market price by the St. Edmundsbury Co-operative Bacon Factory, who removed them from the Show, killed and cured the carcasses. Additional prizes were then awarded for the best Bacon after curing. [7 entries.]

I. (£3.)—J. RACKLEY AND SONS, Hermitage Farm, Silver Street, Edmonton, Large and Middle White, born 7th November, 1925; s Large White, Edmonton Turk 5th, d Middle White, Edmonton Rose.

II. (£2.)—STAFFORD ALLEN AND SON, LTD., Long Melford, Suffolk, large whites; s Boxted Kingmaker 4th (28743).

III. (£1.)—J. PIERPONT MORGAN, Estate Office, Wall Hall, Watford, Large White; s Aldenham Bertha's Boy (39921), d Coton Catalina 6th (104218), s d Mangapp Light Man 3rd (37355).

PRODUCE.

CIDER.

CLASS 241.—*Novice Class. Cask of not less than 9 and not more than 30 gallons of Cider made in 1925 by an Exhibitor who had not previously taken a first prize in any public exhibition.—First prize, £5—second, £3—third, £2.*

[No ENTRY.]

CLASS 242.—*Cask of not less than 9 and not more than 30 gallons of Cider, made in 1925, of a specific gravity not exceeding 1.015 at 60 deg. Fahr. [4 entries.]*

I. (£5.) PULLIN BROS.

II. (£3.) H. J. DAVIS.

III. (£2.) H. J. DAVIS.

CLASS 243.—*12 Quart Bottles of Cider, made in 1925, of a specific gravity not exceeding 1.015 at 60 deg. Fahr. [6 entries.]*

I. (£5.) PULLIN BROS.

II. (£3.)—STYLE AND WINCH (LTD.)

III. (£2.) W. I. MORRIS.

R. H. J. DAVIS.

V.H.C. H. J. DAVIS.

CLASS 244.—*Cask of not less than 9 and not more than 30 gallons of Cider, made in 1925. [5 entries.]*

I. (£5.) H. J. DAVIS.

II. (£3.) H. J. DAVIS.

III. (£2.) PULLIN BROS.

CLASS 245.—*12 Quart Bottles of Cider, made in 1925. [8 entries.]*

I. (£5.) H. J. DAVIS.

II. (£3.) PULLIN BROS.

III. (£2.) E. W. LANGFORD (LD.)

R. H. J. DAVIS.

V.H.C. PULLIN BROS.

CLASS 246.—*12 Quart Bottles of Cider, made in any year previous to 1925. [2 entries.]*

I. (£5.)—H. J. DAVIS.

II. (£3.)—PULLIN BROS.

CHEESE.

CLASS 247.—*Three Cheddar Cheeses [not less than 56lbs. each] made in 1925.* [10 entries.]

- I. (£15.)—Mrs. S. J. STEEDS.
- II. (£10.)—G. R. COLE.
- III. (£5.)—F. G. NURSE AND SON.
- R.—W. H. COLLINS.
- H.C.—F. PORTCH.
- C. S. T. WHITE.

CLASS 248.—*Three Cheddar Cheeses [not over 56lbs. each] made in 1925.* [9 entries.]

- I. (£10.)—Mrs. S. J. STEEDS.
- II. (£7.)—G. R. COLE.
- III. (£4.)—W. H. COLLINS.
- R.—S. T. WHITE.
- C.—G. BARNES.

CLASS 249.—*Four Loaf or other Truckle Cheeses, made in 1925.* [11 entries.]

- I. (£5.)—Mrs. C. NAISH.
- II. (£3.)—G. R. COLE.
- III. (£2.)—Mrs. S. J. STEEDS.
- R.—A. STONE AND SON.
- H.C.—G. BARNES.
- C.—W. H. COLLINS.

CREAM CHEESE, BUTTER AND CREAM.

(These Classes were not open to Professional Teachers).

CLASS 250.—*Three Cream or other Soft Cheeses.*—[8 entries.]

- I. (£3.)—Lieut.-Colonel E. H. W. BOLITHO.
- II. (£2.)—The Right Hon. Sir F. HALSEY, Bart.
- III. (£1.)—Miss R. M. GWILLIM.

CLASS 251.—*2lbs. of Fresh [or very slightly salted] Butter.* [27 entries.]

- I. (£4.)—Mrs. L. MATTHEWS.
- II. (£3.)—Mrs. M. HEYWOOD.
- III. (£2.)—Mrs. L. R. MILDON.
- IV. (£1.)—Mrs. G. BLACKLER.
- R., V.H.C.—Miss D. M. PEARCE.
- V.H.C.—J. NORTHCOTT.
- H.C.—The EARL OF GUILFORD.—Lady A. H. YULE.
- C.—Mrs. F. M. CUSHAM.—H. F. SEYMOUR.

**xciv Prizes awarded for Cream Cheese, Butter and Cream,
and Butter-Making.**

CLASS 252.—*2lbs. of Butter, in the making of which no salt had been used, judged on the last day of the Show.* [20 entries.]

- I. (£4.)**—Mrs. L. R. MILDON.
- II. (£3.)**—Mrs. L. MATTHEWS.
- III. (£2.)**—Mrs. M. HEYWOOD.
- IV. (£1.)**—H. F. SEYMOUR.
- V.H.C.**—The EARL OF GUILFORD.
- H.C.**—Mrs. F. M. COSHAM.
- C.**—Mrs. G. BLACKLER.—Miss D. M. PEARCE.

CLASS 253.—*12lbs. of Keeping Butter, in a jar or crock, delivered to the Secretary 4 weeks before the Show.* [5 entries.]

- I. (£5.)**—A. F. SOMERVILLE.
- II. (£4.)**—Mrs. L. R. MILDON.
- III. (£3.)**—Mrs. L. MATTHEWS.

CLASS 254.—*Four half-pounds of Scalded Cream.* [4 entries.]

- I. (£3.)**—Mrs. L. R. MILDON.
- II. (£2.)**—Mrs. F. VICARY.

COMPETITIONS.

BUTTER-MAKING.

(No winner of a first prize given by this Society for Butter-making during the last three years was eligible to compete in Classes 255 to 257).

CLASS 255.—*Novice Class. For Competitors who had not hitherto won a prize for Butter-making at the London Dairy Show or the Shows of the Royal Agricultural or Bath and West Society. On the first day of the Show.* [7 entries.]

- I. (£4.)**—Miss F. L. WATTS.
- II. (£3.)**—Miss P. JONES.
- III. (£1 10s.)**—Miss M. H. EDWARDS.
- H.C.**—Miss M. CECIL.

CLASS 256.—*For Men and Women, bona fide workers on a farm. On the second day of the Show.* [12 entries.]

- I. (£4.)**—Miss R. E. MITCHELL.
- II. (£3.)**—Miss B. F. PASCOE.
- III. (£1 10s.)**—Mrs. A. MORGAN.
- R.**—Miss D. E. NICHOLAS.
- V.H.C.**—Miss P. JONES.—Miss F. L. WATTS.
- H.C.**—Miss B. LAITY.

CLASS 257.—*For Students who had been through a course of instruction in Butter-making at any County Council School, and who had not previously won a first or second prize at one of the Society's Shows. On the third day of the Show.* [13 entries.]

I. (£4.)—Miss D. E. NICHOLAS.

II. (£3.)—Mrs. A. MORGAN.

III. (£1 10s.)—Miss B. LAITY.

R.—Miss P. JONES.

V.H.C.—Miss S. DAVIS. ---Miss M. H. EDWARDS. ---Miss B. F. PASCOE. ---Miss F. L. WATTS.

H.C.—Miss M. CECIL.

CLASS 258.—*For Men and Women. On the fourth day of the Show.* [20 entries.]

I. (£4.)—Miss J. JAMES.

II. (£3.)—Miss E. PARRY.

III. (£1 10s.)—Miss E. HOLLOWAY.

IV. (£1.)—Miss E. J. EDWARDS.

R.—Miss P. JONES.

V.H.C.—Miss R. M. GWILLIM. ---Miss B. LAITY. ---Miss R. E. MITCHELL. ---Mrs. A. MORGAN.

H.C.—Miss S. DAVIES. ---Miss K. DAVIS. ---Miss F. ECKLEY. ---Miss M. H. EDWARDS. ---Miss D. E. NICHOLAS. ---Miss B. F. PASCOE. ---Miss F. L. WATTS.

CLASS 259.—*For Winners of First and Second Prizes in the Butter-making Classes 255 to 258, or at any previous meeting of the Society. On the fifth day of the Show.*

I. (Gold Medal).—Miss J. JAMES.

II. (Silver Medal).—Miss R. E. MITCHELL.

III. (Bronze Medal). Miss E. J. EDWARDS.

R.—Miss R. M. GWILLIM.

MILKING.

CLASS 260.—*For Men, 18 years of age and over. On the second day of the Show.* [6 entries.]

I. (£2.)—G. G. WILEY.

II. (£1.)—J. W. BEWSEY.

III. (15s.)—R. G. SHORTER.

R.—F. COMLEY.

CLASS 261.—*For Women, 18 years of age and over. On the first day of the Show.* [2 entries.]

I. (£2.)—Miss A. COUSINS.

CLASS 262.—*For Boys and Girls under 18 years of age. On the third day of the Show.* [2 entries.]

I. (£1 10s.)—E. W. BRYANT.

II. (£1.)—G. MERIDAN.

SHOEING.

OPEN CLASSES.

CLASS 263.—*For Cart Horse Shoeing by Smiths. On the fourth day of the Show.* [12 entries.]

I. (£4.) and Gold Medal.—J. C. PRICE, A.F.C.I.

II. (£3.)—J. P. PRINT.

III. (£2.)—W. HOUSE.

IV. (£1.)—W. A. TIMMS.

R. and Special for best prepared foot.—W. L. MEDLAND.

H.C.—W. WALKER.

C.—J. RICHARDS.

CLASS 264.—*For Roadster Horse Shoeing by Smiths. On the fifth day of the Show.* [10 entries.]

I. (£4.) and Special for best prepared foot.—W. L. MEDLAND.

II. (£3.)—J. RICHARDS.

III. (£2.)—A. G. MEARS.

IV. (£1.)—W. HOUSE.

R.—J. P. PRINT.

H.C.—W. H. TIMMS.

C.—A. SMITH.

Silver Cup offered by Messrs. William Martin, Sons & Co., "Dundy-van" Iron and Steel Works, Coatbridge, per Godwin, Warren and Co., Ltd., Bristol, for the Best Competitor in Classes 263 and 264.

I.—J. P. PRINT.

COUNTY CLASSES.

(The Prizes in Classes 265 to 270 were given by the Herts and Beds. Branch N.M.F. and B.A. The Competitions were under the direction of the Agricultural Education Sub-Committee of the Herts County Council, and were open only to persons who had attended lectures on Farriery arranged by the County Council at various centres in the County.)

CLASS 265.—*For Cart Horse Shoeing by Competitors who had not previously won a first prize. On the third day of the Show.* [9 entries.]

I. (£2.)—E. BRYANT.

II. (£1 10s.)—D. CHILDS.

III. (£1.)—F. GREENHAM.

IV. (10s.)—H. IMPEY.

R.—A. SMITH.

Special for best prepared foot.—E. BARNES.

CLASS 266.—*For Roadster Horse Shoeing by Competitors who had not previously won a first prize. On the third day of the Show.*
[6 entries.]

I. (£2.)—F. GREENHAM.

II. (£1 10s.)—W. J. GRIMSDELL.

III. (£1.)—A. SMITH.

IV. (10s.) and Special for best prepared foot.—E. BARNES.

R.—E. UNDERWOOD, SEN.

CLASS 267.—*For Shoemaking or Turning by Men, 20 years of age and over, who had never won a first prize. On the fifth day of the Show.* [2 entries.]

II. (£1.)—E. UNDERWOOD, SEN.

CLASS 268.—*For Shoemaking or Turning by Youths not exceeding 20 years of age. On the fifth day of the Show.* [4 entries.]

I. (£1) and Medal.—J. E. KING.

II. (15s.)—L. J. SMITH.

III. (10s.)—L. L. SAGE.

IV. (5s.)—E. UNDERWOOD, JUN.

CHAMPION CLASSES.

(Open to Residents in the County Radius who had previously won First Prizes for Shoeing.)

CLASS 269.—*For Cart Horse Shoeing. On the fourth day of the Show.* [5 entries.]

I. (£3.) and Special for best prepared foot.—A. G. MEARS.

II. (£2.)—S. G. IVORY.

III. (£1.)—W. WALKER.

R.—J. RICHARDS.

CLASS 270.—*For Roadster Horse Shoeing. On the fourth day of the Show.* [5 entries.]

I. (£3.)—W. WALKER.

II. (£2.)—A. G. MEARS.

III. (£1) and Special for best prepared foot.—S. G. IVORY.

R.—J. RICHARDS.

SPECIAL PRIZES.

A Silver Challenge Cup was awarded to the winner of the First Prize in Class 270 and Medals to the Winners of the First Prizes in Classes 263 to 270.

Capel Gold Medal.—W. L. MEDLAND.

POULTRY.

(The Birds in Classes 1 to 44 and 67 to 80 must have been hatched previous to January 1st, 1926).

CLASS 1.—ANY TWO PURE BREEDS, BEST MATED TO CROSS FOR PRODUCING TABLE POULTRY.—COCK AND 3 HENS, BRED IN 1924 OR 1925, THE PROPERTY OF ONE EXHIBITOR. [5 entries.]

I. (£3.)—Lord DEWAR, Indian Game—Light Sussex.

II. (£2.)—J. H. BAKER AND SONS, Indian Game—Sussex.

R.—G. AND T. ROWE, Old English Game—Light Sussex.

CLASS 2.—COCHIN OR BRAHMA, COCK. [5 entries.]

I. (£1 10s.)—Lord DEWAR.

II. (£1.)—W. H. BREWER.

R.—S. J. BALLARD.

V.H.C.—G. LANE.

CLASS 3.—COCHIN OR BRAHMA, HEN. [2 entries.]

I. (£1 10s.)—Lord DEWAR.

R.—W. H. BREWER.

CLASS 4.—PLYMOUTH ROCK (BARRED), COCK. [6 entries.]

I. (£1 10s.)—W. H. BREWER.

II. (£1.)—W. E. DENNIS.

III. (10s.)—W. COURT.

R.—J. HUGHES REES.

V.H.C.—H. R. HEDGES.

CLASS 5.—PLYMOUTH ROCK (BARRED), HEN. [4 entries.]

I. (£1 10s.)—W. COURT.

II. (£1.)—W. COURT.

R.—J. HUGHES REES.

CLASS 6.—PLYMOUTH ROCK (ANY OTHER VARIETY), COCK [5 entries.]

I. (£1 10s.)—Mrs. DREW (Buff).

II. (£1.)—W. H. BREWER.

III. (10s.)—W. E. DENNIS.

R.—Mrs. DREW.

V.H.C.—E. DAVIES.

CLASS 7.—PLYMOUTH ROCK (ANY OTHER VARIETY), HEN [3 entries.]

I. (£1 10s.)—H. SPENSLEY.

II. (£1.)—Mrs. DREW (Buff).

R.—Mrs. DREW.

CLASS 8.—ORPINGTON (ANY VARIETY), COCK. [11 entries.]

I. (£1 10s.)—W. M. BELL.

II. (£1.)—L. ARDERN.

III. (10s.)—Lord DEWAR.

R.—A. S. BALDWIN.

V.H.C.—C. J. SPINKE.

H.C.—E. A. MERCKEL.

C.—E. UPRON.

CLASS 9.—ORPINGTON (ANY VARIETY), HEN. [11 entries.]

I. (£1 10s.)—L. ARDERN.

II. (£1.)—Lord DEWAR.

III. (10s.)—W. M. BELL.

R.—C. J. SPINKE.

V.H.C.—E. A. MERCKEL.

H.C. Lieut.-Commander H. G. NALDER.

CLASS 10.—BARNVELDER, COCK. [11 entries.]

I. (£1 10s.)—Mrs. M. HARTER.

II. (£1.)—W. R. NORRIS.

III. (10s.)—HORLEY LODGE POULTRY FARM.

R.—H. HEARNE.

V.H.C.—J. B. FELTHAM.

H.C.—HORLEY LODGE POULTRY FARM.

C.—A. TAYLOR.

CLASS 11.—BARNVELDER HEN. [9 entries.]

I. (£1 10s.)—HORLEY LODGE POULTRY FARM.

II. (£1.)—VELDERBRESSE POULTRY FARM.

III. (10s.)—J. TOWN.

R.—HORLEY LODGE POULTRY FARM.

V.H.C.—Mrs. A. TYRRELL.

H.C.—R. BUCKMAN.

CLASS 12.—MINORCA, COCK. [3 entries.]

I. (£1 10s.)—Lord DEWAR.

II. (£1.)—N. ROBINSON.

CLASS 13.—MINORCA, HEN. [4 entries.]

I. (£1 10s.)—Lord DEWAR.

II. (£1.)—F. POCKOCK.

R.—H. A. GARDNER.

CLASS 14.—RHODE ISLAND RED, COCK. [13 entries.]

I. (£1 10s.)—J. H. BAKER AND SONS.

II. (£1.)—S. LAKE.

III. (10s.)—G. H. MUZZLEWHITE.

R.—Dr. H. R. GRELLET.

V.H.C.—F. W. N. GODDARD.

H.C.—ABBOT BROS.

C.—C. H. SANSOM.

CLASS 15.—RHODE ISLAND RED, HEN. [8 entries.]

I. (£1 10s.)—G. H. MUZZLEWHITE.

II. (£1.)—Dr. H. R. GRILLET.

III. (10s.)—ABBOT BROS.

R.—J. H. BAKER AND SONS.

V.H.C.—F. A. CLARKE. --H. TURNPENNY.

H.C.—J. B. FELTHAM.

CLASS 16.—SUSSEX (LIGHT), COCK. [15 entries.]

I. (£1 10s.)—S. G. METIANU.

II. (£1.)—Major J. A. MORRISON, D.S.O.

III. (10s.)—Lord DEWAR.

R.—J. RUSSEL.

V.H.C.—E. A. MERCKEL.

H.C.—Major J. A. MORRISON, D.S.O.

C.—Mrs. M. A. GRANT.

CLASS 17.—SUSSEX (LIGHT), HEN. [16 entries.]

I. (£1 10s.)—Major J. A. MORRISON, D.S.O.

II. (£1.)—J. RUSSEL.

III. (10s.)—Mrs. M. A. GRANT.

R.—Lord DEWAR.

V.H.C.—SHERRIFF AND SONS.

H.C.—S. G. METIANU.

C.—E. A. MERCKEL.

CLASS 18.—SUSSEX (SPECKLED), COCK. [9 entries.]

I. (£1 10s.)—Major J. A. MORRISON, D.S.O.

II. (£1.)—Mrs. M. A. GRANT.

III. (10s.)—J. RUSSEL.

R.—W. M. DAVIES.

V.H.C.—Lord DEWAR.

H.C.—SHERRIFF AND SONS.

C.—W. SNELL.

CLASS 19.—SUSSEX (SPECKLED), HEN. [8 entries.]

I. (£1 10s.)—Mrs. M. A. GRANT.

II. (£1.)—J. RUSSEL.

III. (10s.)—Major J. A. MORRISON, D.S.O.

R.—Major LAMBARDE.

V.H.C.—Major LAMBARDE.

H.C.—SHERRIFF AND SONS.

CLASS 20.—SUSSEX (ANY OTHER VARIETY), COCK. [5 entries.]

I. (£1 10s.)—Major J. A. MORRISON, D.S.O.

II. (£1.)—Mrs. M. A. GRANT (Red).

R.—J. RUSSEL.

V.H.C.—Mrs. M. A. GRANT (Brown).

CLASS 21.—SUSSEX (ANY OTHER VARIETY). [4 entries.]

I. (£1 10s.)—Major J. A. MORRISON, D.S.O.

II. (£1.)—Mrs. M. A. GRANT (Brown).

R.—Mrs. M. A. GRANT (Red).

CLASS 22.—DORKING (ANY VARIETY), COCK. [3 entries.]

I. (£1 10s.)—A. J. MAJOR.

II. (£1.)—R. ALTY.

R.—A. J. MAJOR.

CLASS 23.—DORKING (ANY VARIETY), HEN. [3 entries.]

I. (£1 10s.)—A. J. MAJOR.

II. (£1.)—R. ALTY.

R.—A. J. MAJOR.

CLASS 24.—LANGSHAN, COCK OR HEN. [3 entries.]

I. (£1 10s.)—C. G. LINDLEY.

II. (£1.)—Captain H. C. FRANKLIN, M.C.

R.—E. A. MERCKEL.

CLASS 25.—WYANDOTTE (WHITE), COCK. [6 entries.]

I. (£1 10s.)—Lord DEWAR.

II. (£1.)—W. H. BREWER.

III. (10s.)—H. CLARK.

R.—ABBOTT BROS.

H.C.—N. ROBINSON.

CLASS 26.—WYANDOTTE (WHITE), HEN. [5 entries.]

I. (£1 10s.)—W. H. BREWER.

II. (£1.)—Lord DEWAR.

R.—H. R. HEDGES.

V.H.C.—L. AUBON.

H.C.—H. CLARK.

CLASS 27.—WYANDOTTE (ANY OTHER VARIETY), COCK. [7 entries.]

I. (£1 10s.)—W. H. BREWER.

II. (£1.)—H. SPENSLEY (Silver).

III. (10s.)—L. F. COLLINS (Gold).

R.—A. HOLDEN.

CLASS 28.—WYANDOTTE (ANY OTHER VARIETY), HEN. [8 entries.]**I. (£1 10s.)—H. SPENSLEY (Silver).****II. (£1.)—J. H. BAKER AND SONS.****III. (10s.)—W. H. BREWER.****R.—L. F. COLLINS (Silver).****V.H.C.—S. HILLER (Golden).****H.C.—ABBOT BROS.****CLASS 29.—LEGHORN (WHITE), COCK. [1 entry.]****I. (£1 10s.)—Lord DEWAR.****CLASS 30.—LEGHORN (WHITE), HEN. [6 entries.]****I. (£1 10s.)—Lord DEWAR.****II. (£1.)—H. A. GARDNER.****III. (10s.)—H. A. GARDNER.****H.C.—H. W. L. BARRETT.****CLASS 31.—LEGHORN (ANY OTHER COLOUR), COCK. [7 entries.]****I. (£1 10s.)—H. BRAZIER (Duckwing).****CLASS 32.—LEGHORN (ANY OTHER COLOUR), HEN. [9 entries.]****I. (£1 10s.)—H. BRAZIER (Duckwing).****II. (£1.)—J. ROBINSON.****III. (10s.)—R. WALLER (Black).****R.—W. G. ROGERS (Black).****V.H.C.—HORLEY LODGE POULTRY FARM (Blue).****H.C.—J. ROBINSON.****C.—R. WALLER.****CLASS 33.—HAMBURG (ANY VARIETY), COCK OR HEN. [14 entries.]****I. (£1 10s.)—J. KING.****II. (£1.)—W. H. AVERY.****III. (10s.)—J. KING.****R.—J. KING.****V.H.C.—W. SNELL.****H.C.—W. SNELL.****C.—J. KING.****CLASS 34.—CAMPINE, COCK OR HEN. [4 entries.]****I. (£1 10s.)—Lieut.-Commander H. G. NALDER.****II. (£1.)—J. S. APPLETON.****R.—Lieut.-Commander H. G. NALDER.****C.—Major J. A. MORRISON, D.S.O.**

CLASS 35. OLD ENGLISH GAME (BLACK, RED, WHEATON OR PARTRIDGE), COCK. [4 entries.]

I. (£1 10s.) —R. D. BLIGHT.

II. (£1.) J. H. BAKER AND SONS.

CLASS 36. OLD ENGLISH GAME (BLACK, RED, WHEATON OR PARTRIDGE), HEN. [5 entries.]

I. £1 10s.) R. D. BLIGHT.

II. (£1.) F. G. BIGG AND SON.

R. J. H. BAKER AND SONS.

CLASS 37. OLD ENGLISH GAME (ANY OTHER COLOUR), COCK. [11 entries.]

I. (£1 10s.) Major J. A. MORRISON, D.S.O.

II. (£1.) Major J. A. MORRISON, D.S.O.

III. (10s.) H. S. DAVIES.

R. R. B. PRICE.

V.H.C. A. B. LEWIS.

H.C. J. H. BAKER AND SONS.

C. F. G. BIGG AND SON.

CLASS 38. OLD ENGLISH GAME (ANY OTHER COLOUR), HEN. [10 entries.]

I. (£1 10s.) J. H. BAKER AND SONS.

II. (£1.) J. WATSON, J. P.

III. (10s.) G. MASON.

R. J. WATSON, J. P.

V.H.C. R. D. BLIGHT.

H.C. Major J. A. MORRISON, D.S.O.

C. Captain J. S. THOMPSON.

CLASS 39. INDIAN GAME, COCK. [10 entries.]

I. (£1 10s.)—L. ARDERN.

II. (£1.) J. H. BAKER AND SONS.

III. (10s.) L. BEVAN.

R. Lieut.-Commander H. G. NALDER.

V.H.C. N. H. REED.

H.C. —W. L. HOSKING AND SONS.

CLASS 40. —INDIAN GAME, HEN. [10 entries.]

I. (£1 10s.)—N. H. REED.

II. (£1.)—L. ARDERN.

III. (10s.)—J. H. BAKER AND SONS.

R.—E. H. SIKES.

V.H.C.—Lieut.-Commander H. G. NALDER.

H.C.—ABBOT BROS.

C.—E. H. SIKES.

CLASS 41.—FRENCH (INCLUDING FAVEROLLES), COCK. [4 entries.]

- I. (£1 10s.)—G. HENWOOD.**
- II. (£1.)—G. HENWOOD.**
- R.—S. STEVENS (Bresse).**
- H.C.—H. J. PETERS (Houdan).**

CLASS 42.—FRENCH (INCLUDING FAVEROLLES), HEN. [8 entries.]

- I. (£1 10s.)—H. J. PETERS (Houdan).**
- II. (£1.)—G. HENWOOD.**
- III. (10s.)—R. S. CARTER (Houdan).**
- R.—E. STEVENS (Bresse).**
- V.H.C.—G. HENWOOD.**
- H.C.—F. W. GOODWIN (Houdan).**

CLASS 43.—ANCONA, COCK. [2 entries.]

- I. (£1 10s.)—J. E. FURNESS.**
- R.—P. BURGESS.**

CLASS 44. ANCONA, HEN. [2 entries].

- I. (£1 10s.)—J. E. FURNESS.**
- R.—H. R. HEDGES.**

CLASS 45.—ANY OTHER DISTINCT BREED NOT PREVIOUSLY MENTIONED (INCLUDING BANTAMS), COCK. [8 entries.]

- I. (£1 10s.)—J. H. BAKER AND SONS (Malay).**
- II. (£1.)—E. STEVENS (Golden Buttercup).**
- III. (10s.)—SHERIFF AND SONS.**
- R.—Mrs. AINSLIE (Australorp).**

CLASS 46.—ANY OTHER DISTINCT BREED NOT PREVIOUSLY MENTIONED (EXCLUDING BANTAMS), HEN. [9 entries.]

- I. (£1 10s.)—E. M. ROWELL (Aseel).**
- II. (£1.)—J. H. BAKER AND SONS.**
- III. (10s.)—ABBOT BROS.**
- R.—E. STEVENS (Golden Buttercup).**
- V.H.C.—SHERIFF AND SONS.**
- H.C.—L. ARDERN (Jubilee Game).**

SELLING CLASSES.**CLASS 47.—ANY DISTINCT BREED, COCK OR COCKEREL (PRICE NOT TO EXCEED £1 ls.). [15 entries.]**

- I. (£1 10s.)—L. ARDERN.**
- II. (£1.)—H. SPENSLEY (Buff Rock).**
- III. (10s.)—Lord DEWAR.**

- R.**—Dr. H. R. GRELLET (R. I. Red).
V.H.C.—W. H. BREWER.
H.C.—A. S. BALDWIN (Blue Orpington).
C.—C. R. BUCKMAN (Barnvelder).

CLASS 48.—ANY DISTINCT BREED, HEN OR PULLET (PRICE NOT TO EXCEED £1 1s.) [10 entries.]

- I. (£1 10s.)**—Lord DEWAR.
II. (£1.)—J. H. BAKER AND SONS (Indian Game).
III. (10s.)—L. ARDERN.
R.—J. E. GEORGE AND SONS (Rhode Island Red).
V.H.C.—W. H. BREWER.
H.C.—W. J. WILD AND SON.

CHICKENS OF 1926.

CLASS 49.—COCHIN, BRAHMA, PLYMOUTH ROCK, ORPINGTON, LANGSHAN, SUSSEX OR DORKING, COCKEREL. [11 entries.]

- I. (£1 10s.)**—Major J. A. MORRISON, D.S.O. (Sussex), January 2nd.
II. (£1.)—S. G. METIANU (Light Sussex), January 2nd.
III. (10s.)—A. J. MAJOR (Dorking), January 2nd.
R.—W. M. BELL (Orpington), January 11th.
V.H.C.—Major A. J. MORRISON, D.S.O. (Sussex), January 2nd.
H.C.—J. RUSSEL, January 7th.
C.—E. A. MERCKEL (Light Sussex), January 6th.

CLASS 50.—COCHIN, BRAHMA, PLYMOUTH ROCK, ORPINGTON, LANGSHAN, SUSSEX OR DORKING, PULLET. [10 entries.]

- I. (£1 10s.)**—Major J. A. MORRISON, D.S.O. (Sussex), January 2nd.
II. (£1.)—J. RUSSEL, January 2nd.
III. (10s.)—A. J. MAJOR (Dorking), January 2nd.
R.—W. M. BELL (Orpington), January 11th.
V.H.C.—E. A. MERCKEL (Light Sussex), January 6th.
H.C.—Major J. A. MORRISON, D.S.O. (Sussex), January 2nd.
C.—S. G. METIANU (Light Sussex), January 2nd.

CLASS 51.—MINORCA, WYANDOTTE, LEGHORN, CAMPINE, HAMBURG, FAVEROLLES OR FRENCH, COCKEREL. [7 entries.]

- I. (£1 10s.)**—Lord DEWAR, January 3rd.
II. (£1.)—W. H. BREWER, January 2nd.
III. (10s.)—L. F. COLLINS (Gold Wyandotte), January 12th.
R.—Captain H. C. FRANKLIN, M.C. (White Wyandotte), January 13th.
H.C.—H. R. HEDGES (White Wyandotte), January 26th.

CLASS 52.—MINORCA, WYANDOTTE, LEGHORN, CAMPINE, HAMBURG, FAVEROLLES OR FRENCH, PULLET. [5 entries.]

I. (£1 10s.)—Lord DEWAR, January 3rd.

II. (£1.)—Captain H. C. FRANKLIN, M.C. (White Wyandotte), January 13th.

III. (10s.)—H. CLARK (White Wyandotte), January 7th.

CLASS 53.—GAME, MALAY, OR ANY OTHER DISTINCT BREED NOT PREVIOUSLY MENTIONED, COCKEREL. [9 entries.]

I. (£1 10s.)—L. ARDERN (Indian Game), January 5th.

II. (£1.)—J. H. BAKER AND SONS (Indian Game).

III. (10s.)—N. H. REED.

R.—Mrs. J. AINSLIE (Australorp), January 1st.

H.C.—C. H. SANSOM (Rhode Island Red), January 1st.

CLASS 54.—GAME, MALAY, OR ANY OTHER DISTINCT BREED NOT PREVIOUSLY MENTIONED, PULLET. [10 entries.]

I. (£1 10s.)—N. H. REED.

II. (£1.)—L. BEVAN (Indian Game), January 3rd.

III. (10s.)—Mrs. J. AINSLIE (Australorp), January 1st.

R.—L. BEVAN (Indian Game), January 3rd.

LIVE TABLE POULTRY.

CLASS 55.—PAIR OF COCKERELS OF ANY PURE BREED, HATCHED IN 1926. [6 entries.]

I. (£1 10s.)—E. A. MERCKEL (Light Sussex), January 6th.

II. (£1.)—L. ARDERN (Indian Game), January 10th.

III. (10s.)—A. J. MAJOR (Dorkings), January 2nd.

R.—Major J. A. MORRISON, D.S.O., January 2nd.

H.C.—G. C. OLIVER, J.P. (Light Sussex), January.

C.—J. H. BAKER AND SONS (Indian Game).

CLASS 56.—PAIR OF PULLETS OF ANY PURE BREED, HATCHED IN 1926. [6 entries.]

I. (£1 10s.)—E. A. MERCKEL (Light Sussex), January 6th.

II. (£1.)—A. J. MAJOR (Dorkings), January 2nd.

III. (10s.)—G. C. OLIVER J.P. (Light Sussex), January.

R.—L. ARDERN (Indian Game), January 10th.

H.C.—J. H. BAKER AND SONS (Indian Game).

C.—Major J. A. MORRISON, D.S.O. (January 2nd.)

CLASS 57.—PAIR OF CROSS-BRED COCKERELS, HATCHED IN 1926—
First prize, £1 10s.—second, £1—third, 15s. [1 entry.]

(No EXHIBIT.)

CLASS 58.—PAIR OF CROSS-BRED PULLETS, HATCHED IN 1926.
[2 entries.]

III. (£10s.)—Mrs. J. AINSLIE (Australorp-Rhode Island Red), January 1st.

UTILITY POULTRY.

CLASS 59.—LIGHT BREED, COCK. [3 entries.]

I. (£1 10s.)—Lord DEWAR (White Leghorn).

CLASS 60.—LIGHT BREED, HEN. [9 entries.]

I. (£1 10s.)—Lord DEWAR (White Leghorn).

II. (£1.)—J. H. BAKER AND SONS.

III. (10s.)—F. W. N. GODDARD (Buff Leghorn).

R.—A. M. TREDGOLD (Ancona).

V.H.C.—H. R. HEDGES (White Leghorn).

CLASS 61.—HEAVY BREED, COCK. [17 entries.]

I. (£1 10s.)—Mrs. DREW (Buff Plymouth Rock).

II. (£1.)—F. W. N. GODDARD (Rhode Island Red).

III. (10s.)—Lord DEWAR (White Wyandotte).

R.—J. H. BAKER AND SONS.

V.H.C.—H. R. HEDGES (White Wyandotte).

H.C.—Mrs. J. AINSLIE.

C.—H. J. WILD AND SON (Light Sussex).

CLASS 62.—HEAVY BREED, HEN. [16 entries.]

I. (£1 10s.)—Lord DEWAR (White Wyandotte).

II. (£1.)—Mrs. DREW (Buff Plymouth Rock).

III. (10s.)—G. E. CONSTABLE (Buff Orpington).

R.—Major J. A. MORRISON, D.S.O.

V.H.C.—Miss I. BRAIDE (Australorp).

H.C.—H. R. HEDGES (White Wyandotte).

C.—W. H. MANDLEY (Rhode Island Red.)

CHAMPION PRIZE.

Best Cock or Cockerel exhibited in any of the Classes.

I. (£3.)—Lord DEWAR.

Best Hen or Pullet exhibited in any of the Classes.

I. (£3.)—Major J. A. MORRISON.

DUCKS, GEESE AND TURKEYS.

CLASS 63.—DRAKE OR DUCK (AYLESBURY). [7 entries.]

I. (£1 10s.)—H. G. WESTON.

II. (£1.)—H. G. WESTON.

III. (10s.)—G. E. SHEPPARD.

H.C.—G. E. SHEPPARD.

CLASS 64.—DRAKE OR DUCK (ROUEN). [5 entries.]

I. (£1 10s.)—F. E. A. CROUCH.

II. (£1.)—R. ALTY.

R.—S. SPINKE.

H.C.—S. SPINKE.

CLASS 65.—DRAKE OR DUCK (INDIAN RUNNER). [7 entries.]

I. (£1 10s.)—C. F. B. LETHBRIDGE.

II. (£1.)—J. DUNKLEY.

III. (10s.)—D. THOMAS.

R.—C. F. B. LETHBRIDGE.

H.C.—J. DUNKLEY.

CLASS 66.—DRAKE OR DUCK (ANY OTHER VARIETY). [6 entries.]

I. (£1 10s.)—ABBOT BROS.

II. (£1.)—S. HILLER.

III. (£10s.)—E. BRADLEY (Khaki Campbell).

R.—Lady V. BRAITHWAITE.

CLASS 67.—GANDER OR GOOSE. [2 entries.]

I. (£1 10s.)—ABBOT BROS.

R.—ABBOT BROS.

CLASS 68.—TURKEY, COCK OR HEN. [9 entries.]

I. (£1 10s.)—Mrs. W. B. FIELD.

II. (£1.)—ABBOT BROS.

III. (10s.)—H. WOOLATT.

R.—Mrs. J. G. WILLIAMS.

V.H.C.—H. WOOLATT.

H.C.—Miss J. LEWIS.

LOCAL CLASSES.

(The Prizes in Classes 69 to 82 were given by the Herts Agricultural Society and competition was confined to Residents in the County Radius, which included the whole of the County of Hertford and that portion of the County of Middlesex within an eleven mile radius of the Post Office at Hatfield).

CLASS 69.—SUSSEX (ANY COLOUR), COCK OR COCKEREL. [3 entries.]

I. (15s.)—SHERRIFF AND SONS.

II. (10s.)—N. FLOWER.

R.—H. R. HEDGES (Light).

CLASS 70.—SUSSEX (ANY COLOUR), HEN OR PULLET. [4 entries.]

I. (15s.)—N. FLOWER.

II. (10s.)—SHERRIFF AND SONS.

R.—SHERRIFF AND SONS.

H.C.—H. R. HEDGES (Light).

CLASS 71.—WYANDOTTE, COCK OR COCKEREL. [3 entries.]

I. (15s.)—S. HILLER.

II. (10s.)—Mrs. M. SOLLY-FLOOD.

CLASS 72.—WYANDOTTE, HEN OR PULLET. [7 entries.]

I. (15s.)—H. R. HEDGES.

II. (10s.)—H. R. HEDGES.

III. (5s.)—S. HILLER.

R.—Mrs. M. SOLLY-FLOOD, January 30th.

CLASS 73. RHODE ISLAND, COCK OR COCKEREL. [5 entries.]

I. (15s.)—Dr. H. R. GRELLET.

II. (10s.)—F. W. N. GODDARD.

R.—C. H. SANSOM.

V.H.C.—N. FLOWER.

CLASS 74.—RHODE ISLAND, HEN OR PULLET. [4 entries.]

I. (15s.)—F. W. N. GODDARD.

II. (10s.)—J. E. GEORGE AND SONS.

R.—F. W. WATTS.

H.C.—Dr. H. R. GRELLET.

CLASS 75. ORPINGTON (ANY COLOUR), COCK[OR COCKEREL. [2 entries.]

I. (15s.)—G. D. LOVELL, Sen. (Black.)

R.—A. S. BALDWIN, (Blue).

CLASS 76. ORPINGTON (ANY COLOUR), HEN OR PULLET. [2 entries.]

I. (15s.)—G. E. CONSTABLE (Blue).

R.—G. D. LOVELL, Sen. (Black).

**CLASS 77. ANY OTHER VARIETY (HEAVY), COCK OR COCKEREL.
[4 entries.]**

I. (15s.)—Miss I. BRAIDE (Australorp).

II. (10s.)—S. BENNETT.

R.—G. D. LOVELL, Sen. (Dorking).

H.C.—Mrs. J. AINSLIE.

**CLASS 78. ANY OTHER VARIETY (HEAVY), HEN OR PULLET.
[3 entries.]**

I. (15s.)—S. BENNETT.

II. (10s.)—Miss I. BRAIDE (Australorp).

R.—Mrs. J. AINSLIE.

**CLASS 79. ANY OTHER VARIETY (LIGHT), COCK OR COCKEREL.
[2 entries.]**

I. (15s.)—F. W. N. GODDARD (Buff Leghorn).

H.C.—Mrs. M. SOLLY-FLOOD (White Leghorn).

CLASS 80.—ANY OTHER VARIETY (LIGHT), HEN OR PULLET.
[3 entries.]

I. (15s.)—SHERRIFF AND SONS.

II. (10s.)—F. W. N. GODDARD (Buff Leghorn).

CLASS 81.—BUFF ORPINGTON OR INDIAN RUNNER, DRAKE OR DUCK. [3 entries.]

I. (15s.)—C. F. B. LETHBRIDGE.

II. (10s.)—S. HILLER.

R.—C. F. B. LETHBRIDGE.

CLASS 82.—ANY OTHER VARIETY, DRAKE OR DUCK. [4 entries.]

I. (15s.)—E. BRADLEY.

II. (10s.)—E. BRADLEY (Khaki Campbell).

PIGEONS.

CLASS 83.—POUTER, PIGMY, OR CROPPER, COCK OR HEN.—First prize, 10s.—second, 8s.—third, 6s.

[No ENTRY.]

CLASS 84.—DRAGON, COCK.—First prize, 10s.—second, 8s.—third, 6s.

[No ENTRY.]

CLASS 85.—DRAGON, HEN.—First prize, 10s.—second, 8s.—third, 6s.

[No ENTRY.]

CLASS 86.—MAGPIE (BLACK), COCK OR HEN. [1 entry.]

II. (8s.)—W. H. AVERY.

CLASS 87.—MAGPIE (ANY OTHER COLOUR), COCK OR HEN.—First prize, 10s.—second, 8s.—third, 6s.

[No ENTRY.]

CLASS 88.—TUMBLER (LONG-FACED), COCK OR HEN. [2 entries.]

I. (10s.)—S. HILLER.

V.H.C.—S. HILLER.

CLASS 89.—JACOBIN (BLACK), COCK OR HEN. [2 entries.]

II. (8s.)—A. J. HOWARD.

III. (6s.)—W. W. HOWGEGO.

CLASS 90.—JACOBIN (ANY OTHER COLOUR), COCK OR HEN.—First prize, 10s.—second, 8s.—third, 6s.

[No ENTRY.]

CLASS 91.—ORIENTAL (ANY VARIETY), COCK OR HEN.—First prize, 10s.—second, 8s.—third, 6s.

[No ENTRY.]

CLASS 92.—NUN (BLACK), COCK OR HEN. [1 entry.]

I. (10s.)—A. F. HOBBS.

CLASS 93.—NUN (ANY OTHER COLOUR), COCK OR HEN. [1 entry.]

II. (8s.)—A. F. HOBBS.

CLASS 94.—ARCHANGEL, COCK. [9 entries.]

I. (10s.)—C. A. EDWARDS.

II. (8s.)—C. A. EDWARDS.

III. (6s.)—E. E. ST. QUINTON.

V.H.C.—E. E. ST. QUINTON.

H.C.—E. E. ST. QUINTON.

C.—H. BAILEY.

CLASS 95.—ARCHANGEL, HEN. [5 entries.]

I. (10s.)—C. A. EDWARDS.

II. (8s.)—C. A. EDWARDS.

V.H.C.—C. A. EDWARDS.

H.C.—H. W. WEBB.

C.—H. BAILEY.

CLASS 96.—MODENA, COCK. [2 entries.]

I. (10s.)—H. COCKERILL.

V.H.C.—H. W. WEBB.

CLASS 97.—MODENA, HEN. [1 entry.]

II. (8s.)—H. W. WEBB.

CLASS 98.—FANTAIL (WHITE), COCK OR HEN.—First prize, 10s.—second, 8s.—third, 6s.

[No ENTRY.]

CLASS 99.—FANTAIL (ANY OTHER COLOUR), COCK OR HEN.—First prize, 10s.—second, 8s.—third, 6s.

[No ENTRY.]

CLASS 100.—FLYING TIPPLER OR TUMBLER, COCK. [2 entries.]

I. (10s.)—A. BUSH.

V.H.C.—A. J. ASH.

CLASS 101.—FLYING TIPPLER OR TUMBLER, HEN. [2 entries.]

II. (8s.)—A. BUSH.

H.C.—A. J. ASH.

CLASS 102.—WORKING HOMER, COCK. [5 entries.]

I. (10s.)—T. W. HARRISON.

II. (8s.)—T. W. HARRISON.

V.H.C.—G. PITKIN.

H.C.—C. PURNELL.

CLASS 103.—WORKING HOMER, HEN. [4 entries.]**I. (10s.)—T. W. HARRISON.****III. (6s.)—C. PURNELL.****V.H.C.—T. W. HARRISON.****H.C.—R. M. M. PORTER.****CLASS 104.—ANY OTHER VARIETY, COCK OR HEN. [3 entries.]****II. (8s.)—H. W. WEBB (Tape Runt).****III. (6s.)—G. PITKIN (Turbit).****H.C.—G. PITKIN (Carrier).****CLASS 105.—SELLING CLASS (ANY VARIETY, NOT TO EXCEED £2), COCK OR HEN. [2 entries.]****I. (10s.)—C. A. EDWARDS (Archangel).****CLASS 106.—SELLING CLASS (ANY VARIETY, NOT TO EXCEED £1), COCK OR HEN. [2 entries.]****I. (10s.)—C. A. EDWARDS (Archangel).****V.H.C.—H. W. WEBB (Archangel).****RABBITS.****CLASS 1.—ENGLISH (BLACK OR BLUE), 4 MONTHS OLD AND OVER. [4 entries.]****I. (10s.)—G. BUNKER, SEN. (Black).****II. (8s.)—L. S. HILL (Blue), 6 months.****R.—G. BUNKER, SEN.****V.H.C.—H. DAVIDSON.****CLASS 2.—ENGLISH (ANY OTHER COLOUR), 4 MONTHS OLD AND OVER. [6 entries.]****I. (10s.)—H. L. DRACOTT (Tortoise).****II. (8s.)—J. WELLS (1924).****III. (6s.)—C. EMMETT (Tortoise).****R.—A. R. PITTS (Tortoise).****V.H.C.—E. SANDERS (Tortoise), December, 1924.****CLASS 3.—ENGLISH (ANY COLOUR), UNDER 4 MONTHS. [8 entries.]****I. (10s.)—H. HARDING, 2 months.****II. (8s.)—A. R. PITTS.****III. (6s.)—A. R. PITTS.****R.—J. WELLS, March, 1926.****V.H.C.—C. EMMETT (Tortoise), 10 weeks.****H.C.—A. R. PITTS.****C.—H. L. DRACOTT (Tortoise).**

CLASS 4.—SILVER, ANY AGE. [5 entries.]

I. (10s.)—C. L. BARHAM.

II. (8s.)—A. D. BRAZIER.

R.—J. A. TURNER.

V.H.C.—C. L. BARHAM.

CLASS 5.—DUTCH (BLACK OR BLUE), 4 MONTHS OLD AND OVER.
[4 entries.]

I. (10s.)—C. H. MATHEWS (Black), April 8th, 1925.

II. (8s.)—Mrs. E. RYLAH (Blue), May, 1925.

R.—G. BARCLAY (Black).

V.H.C.—P. J. BRADFORD (Black), May, 1925.

CLASS 6.—DUTCH (ANY OTHER COLOUR), 4 MONTHS OLD AND OVER.—
First prize, 10s.—second, 8s.—third, 6s.

[No ENTRY.]

CLASS 7.—DUTCH (ANY COLOUR), UNDER 4 MONTHS. [4 entries.]

I. (10s.)—HORNE AND SON.

II. (8s.)—J. R. WILSON (Black), May 13th, 1926.

R.—P. J. BRADFORD (Black), March 5th, 1926.

V.H.C.—P. J. BRADFORD (Blue), March 5th, 1926.

CLASS 8.—CHINCHILLA. [14 entries.]

I. (10s.)—H. BAXTER.

II. (8s.)—S. A. RIDER, June, 1925.

III. (6s.)—H. BAXTER.

R.—Miss L. B. MACKENZIE, November 27th, 1925.

V.H.C.—W. L. HOSKING AND SONS, 2 years.

H.C.—S. A. RIDER, May, 1925.

C.—J. A. TURNER.

CLASS 9.—BEVERAN (BLUE). [2 entries.]

I. (10s.)—T. GIBBS, December 8th, 1925.

R.—A. O. GARRICK, December 3rd, 1925.

CLASS 10.—BEVERAN (WHITE). [4 entries.]

I. (10s.)—The Lady HELEN FORBES, June 8th, 1925.

II. (8s.)—C. M. IVES.

R.—The Lady HELEN FORBES, February 21st, 1925.

CLASS 11.—BELGIAN HARE (4 MONTHS OLD AND OVER).—First prize, 10s.—
second, 8s.—third, 6s.

[No ENTRY.]

CLASS 12.—BELGIAN HARE (UNDER 4 MONTHS).—First prize, 10s.—second,
8s.—third, 6s.

[No ENTRY.]

CLASS 13.—HAVANA.—First prize, 10s.—second, 8s.—third, 6s.
[No ENTRY.]

CLASS 14.—TAN. [3 entries.]

I. (10s.)—BRANDON BROS., August 16th, 1925.

CLASS 15.—LILAC. [4 entries.]

I. (10s.)—A. R. PITTS.

II. (8s.)—A. R. PITTS.

R.—R. M. M. PORTER, February 22nd, 1925.

V.H.C.—A. R. PITTS.

CLASS 16.—FLEMISH GIANT.—First prize, 10s.—second, 8s.—third, 6s.
[No ENTRY.]

CLASS 17.—ANY OTHER VARIETY (4 MONTHS OLD AND OVER). [2 entries.]

I. (10s.)—Miss L. B. MACKENZIE (Angora), October 2nd, 1925.

CLASS 18.—ANY OTHER VARIETY (UNDER 4 MONTHS). [4 entries.]

I. (10s.)—T. EMBLING (Polish).

II. (8s.)—A. R. PITTS.

R.—A. R. PITTS.

CLASS 19.—SELLING CLASS (ANY VARIETY), PRICE NOT TO EXCEED £1.
[6 entries.]

I. (10s.)—Miss L. B. MACKENZIE (Chinchilla), October 26th, 1925.

II. (8s.)—J. R. WILSON (Tortoise Dutch).

III. (6s.)—A. R. PITTS (English).

R.—Miss L. B. MACKENZIE (Chinchilla), November 27th, 1925.

V.H.C.—Miss L. B. MACKENZIE (Chinchilla).

H.C.—Miss J. SIMPSON (Chinchilla).

SPECIAL PRIZE.

Given by Mr. NORMAN ROBINSON.

Best Rabbit, shown by an Exhibitor residing within 10 miles of the Watford Post Office.

I. (£3.)—H. L. DRACOTT.

R.—H. HARDING.

BATH & WEST & SOUTHERN COUNTIES SOCIETY.

OBJECTS OF THE SOCIETY AND PRIVILEGES OF MEMBERSHIP.

ANNUAL EXHIBITIONS.

THE Society annually holds an Exhibition in some city or town in England or Wales. Each section of the Society's district is visited at intervals, so that most Members have an opportunity of seeing the Show in their own neighbourhood every few years. Prizes to a large amount are given for Horses, Cattle, Sheep, Goats, Pigs, Farm Produce, &c. Provision is also made for the exhibition of Agricultural Implements and Machinery, Seeds, Cattle Foods, Artificial Manures, and articles of general utility. A substantially built and completely equipped working Dairy on a large scale is a special feature of these Exhibitions. Here explanatory demonstrations and comparative tests of processes are carried on, with the assistance of well-known practical and scientific experts, and Butter-making Competitions are held. Among the features of the Annual Meeting are Shoeing, Milking and other Competitions, Poultry and Horticultural Shows and Exhibitions, illustrative of Bee-keeping, Home Industries, Manufacturers, Rural Education and Research and Forestry.

Membership entitles to free admission to the Annual Exhibition, and also to the Grand Stand overlooking the Horse and Cattle Ring, to the Working Dairy, and to the use of the Members' Special Pavilion for Luncheons, Reading, Writing, &c.

Entries can be made by Members (elected on or before the last Tuesday in January preceding the Show, or who have paid two years' subscription before the date of closing of entries), at about half the fees payable by Non-Members.

THE JOURNAL.

All Members receive free of charge the Society's Journal, which is published annually bound in cloth. It has for its aim the dissemination of agricultural knowledge in a popular form, and, in addition to original articles by well-known agricultural authorities, it contains particulars of the Society's general operations, full reports of its experimental and research work, prize awards, financial statements, list of Members, reviews of new books on agriculture, &c. (The price of the Journal to non-Members is 6s. 6d. post free.)

CHEMICAL AND OTHER FACILITIES.

The Society has a Consulting Chemist, *from whom Members can obtain analyses and reports at reduced rates of charge.* An arrangement has also been made under which Members of the Society can obtain, free of charge, from the National Fruit and Cider Institute at Long Ashton, analyses of cider-apples and perry-pears, and, with a view to assisting farmers and others in dealing with insect and other pests which affect agriculture, horticulture, &c., the Council have availed themselves of an offer from the Board of Economic Biology of the University of Bristol to investigate the nature of any insect or other pest and report upon it free of charge.

EXPERIMENTS.

Experiments on crops are conducted at experimental stations in various parts of the Kingdom, and *Members are enabled to take part in these and to receive reports thereon.*

TERMS OF MEMBERSHIP.**ANNUAL SUBSCRIPTIONS.**

Governors, not less than	£2
Ordinary Members, not less than	£1
Tenant Farmers, the rateable value of whose holdings does not exceed £200 a year, not less than	10s.

Governors, who are eligible for election as President or Vice-President, are entitled, in addition to the privileges already mentioned, to an extra Season Ticket for the Annual Exhibition and for the Grand Stand, &c. Governors subscribing more than £2 are entitled to a further Ticket for every additional £1 subscribed.

Members subscribing less than £1 are entitled to all the privileges of Membership except that of entering Stock at reduced fees, and their admission Ticket for the Annual Show is available for *one day only*, instead of for the whole time of the Exhibition.

LIFE COMPOSITIONS.

Governors may compound for their Subscription for future years by payment, in advance, of £20; and Members by payment, in advance, of £10. Governors and Members who have subscribed for twenty years may become Life Members on payment of half these amounts.

Any person desirous of joining the Society can be proposed by a Member, or by the Secretary, 3, Pierrepont Street, Bath.

Telegraphic Address—"AGRICULTURE, BATH."

Telephone No. 610.

BATH & WEST & SOUTHERN COUNTIES SOCIETY.

GENERAL LAWS.

As revised in accordance with the Report of a Special Committee ; which Report was received and adopted by the Annual General Meeting of Members, held on May 19, 1923.

COMPOSITION OF THE SOCIETY.

I. The Society shall consist of a President, Vice-Presidents, Trustees, Council, Treasurer, Secretary, and Members.

OBJECTS.

II. The Society shall have the following objects :—

- (a) To hold Exhibitions of breeding stock, agricultural implements, and such other articles connected with agriculture, horticulture, arts, manufactures or commerce, as may be determined upon by the Council.
- (b) To conduct practical and scientific investigations in agriculture and horticulture.
- (c) To promote technical education in agriculture and horticulture by providing means of systematic instruction.
- (d) To publish a Journal for circulation.

SUBSCRIPTIONS.

III. The Annual Subscription for Members shall be as follows :—

Governors (who are eligible for election as President or Vice-President), not less than	£2
Ordinary Members, not less than	£1
Tenant Farmers (the rateable value of whose holdings does not exceed £200 a year), not less than	10s.

IV. The payment of £20 in one sum shall constitute a Governor for life, and of £10 in one sum, an Ordinary Member for life ; but any Governor who has subscribed not less than £2 annually for a period of twenty years may become a Life Governor on the further payment of £10 in one sum ; and any Ordinary Member, who has subscribed not less than £1 annually for the same period may become a Life-Member on the further payment of £5 in one sum.

V. Subscriptions shall become due and be payable in advance on the 1st of January in each year or as soon as the Subscriber has been elected a Member. When the election takes place during the last quarter of the year, the subscription payable on election will be considered as applying to the ensuing year.

VI. A Member shall be liable to pay his subscription for the current year unless he shall have given notice, in writing, to the Secretary before January 1st, of his intention to withdraw.

GOVERNING BODY.

VII. The entire management of the Society—including the making of Bye-laws, election of Members, determining the Prizes to be awarded, appointing Committees, fixing the places of Meetings and Exhibitions, appointing or removing the Treasurer, Secretary, and such other officers as may be required to carry on the business of the Society—shall be vested in the Council, who shall report its proceedings at the Annual Meeting of the Society.

VIII. The Council shall consist of the Patron (if any), President, Vice-Presidents, Trustees, and Treasurer (who shall be *ex-officio* Members), and of sixty-six elected Members.

ELECTION OF PRESIDENT, VICE-PRESIDENTS, TRUSTEES AND COUNCIL.

IX. The election of a President for the year, of any additional Vice-Presidents, or Trustees, and of the Members of Council representing the Divisions named in Law X., shall take place at the Annual Meeting of the Society, and they shall enter into office at the conclusion of the Exhibition during which such Annual Meeting has been held.

X. The sixty-six Members of the Council referred to in Laws VIII. and IX. shall consist of fifty-eight persons residing or representing property in the following Divisions, viz. :—

Twelve from the Counties of Devon and Cornwall, which shall be called the Western Division.

Twenty-four from the Counties of Somerset, Dorset and Wilts, which shall be called the Central Division ;

Twelve from the Counties of Hants, Berks, Oxon, Bucks, Middlesex, Surrey, Sussex and Kent, which shall be called the Southern Division ; and

Ten from the Counties of Worcester, Gloucester, Hereford and Monmouth, and the Principality of Wales, which shall be called the North-Western Division.

The remaining eight shall be elected (irrespective of locality) from the general body of members, and shall form a Division which shall be called the "Without Reference to District" Division.

XI. One half of the elected Members in each of the five Divisions named in Law X. shall retire annually by rotation, but shall be eligible for re-election.

XII. The Council shall have power to nominate a President, Vice-Presidents, Trustees, and Members of Council for the approval of the Annual Meeting, and to fill up such vacancies in their own body as are left after the Annual Meeting, or as may from time to time occur during the interval between the Annual Meetings.

XIII. Nominations to offices, election to which is vested in the whole body of Members must reach the Secretary ten days before the meeting, at which such vacancies are to be filled up.

MEETINGS.

XIV. The Annual Meeting of the Society shall take place during the holding of the annual Exhibition.

XV. Special General Meetings of the Society may be convened by the President on the written requisition of not less than three Members of the Council ; and all Members shall have ten days' notice of the object for which they are called together.

XVI. No Member of less than three months' standing, or whose subscription is in arrear, shall be entitled to vote at a Meeting.

EXHIBITIONS.

XVII. The Annual Exhibition of the Society shall be held in different Cities or Towns in successive years.

XVIII. All Exhibitors shall pay such fees as may be fixed by the Council. Members subscribing not less than £1 per annum, who have been elected previous to February 1st, and have paid the subscription for the current year, or if elected later, who pay a subscription for the previous year and the current subscription, before the date of closing of entries, shall be entitled to exhibit at such reduction in these fees as the Council shall determine.

PRIZES.

XIX. All prizes offered at the cost of the Society shall be open for competition to the United Kingdom.

XX. No person intending to compete for any prize offered at the annual Exhibition shall be eligible to act as a judge or to have any voice in the selection of judges to award the premiums in the department in which he exhibits.

XXI. If it be proved to the satisfaction of the Council that any person has attempted to gain a prize in this, or in any other society, by a false certificate or by a misrepresentation of any kind, such person shall thereupon be, for the future, excluded from exhibiting in this Society.

JOURNAL.

XXII. The Proceedings of the Society, Awards of Prizes, Financial Statements and Lists of Officers, Governors, and Members, shall be printed annually in the Society's *Journal*, and every Governor and Member, not in arrear with his subscription, shall be entitled to receive one copy, free of expense, and there shall be an additional number printed for sale.

POLITICS.

XXIII. No motion or question of a political tendency shall be introduced at any meeting of the Society, otherwise than with the consent of two-thirds of the members present at any meeting, and then only after 14 days' notice in writing.

ALTERATIONS IN LAWS.

XXIV. No new General Law shall be made or existing one altered, added to or rescinded, except at an Annual or Special General Meeting, and then only provided that a statement of particulars, in writing, shall have been sent to the Secretary at least twenty-one days previous to the Meeting at which the question is to be considered.

LIST OF OFFICERS, 1926-27.

PATRON.

HIS MOST GRACIOUS MAJESTY THE KING.

PRESIDENT.

H.R.H. THE DUKE OF YORK, K.G., St. James's Palace, London.

TRUSTEES.

*BATH, THE MARQUIS OF, K.G., Longleat, Warminster.

SHELLEY, SIR J., BART., Shobrooke Park, Crediton.

NAPIER, H. B., Long Ashton, Bristol.

VICE-PRESIDENTS.

ASHCROFT, W.	13, The Waldrons, Croydon
BADCOCK, H. J.	Broadlands, Taunton
*BATH, MARQUIS OF, K.G.	Longleat, Warminster
BENYON, J. HERBERT	Englefield House, Reading
*BLEDISLOE, LORD, K.B.E.	Lydney Park, Gloucester
*BLYTHSWOOD, LORD	Blythswood, Renfrew
*BOLES, LT.-COL. SIR DENNIS F., BART., C.B.E., D.L.	Watts House, Taunton
*BUTE, MARQUIS OF	The Castle, Cardiff
*CLARENDON, THE EARL OF	The Grove, Watford
*CLINTON, LORD	Heanton Satchville, Dolton, N. Devon
*CORNWALLIS, LORD, C.B.E., D.L.	Linton Park, Maidstone
CUNDALL, H. M., I.S.O., F.S.A.	4, Marchmont Gardens, Richmond Hill, Surrey
FALMOUTH, VISCOUNT	Tregothnan, Truro
HAMBLEDEN, VISCOUNT	Greenlands, Henley-on-Thames
HOBHOUSE, RIGHT HON. H.	Hadspen House, Castle Cary
*LANSDOWNE, MARQUIS OF, K.G.	Bowood, Calne
*LLEWELYN, SIR J. T. D., BART.	Penllergaer, Swansea
MOORE STEVENS, COL. R. A.	Bellenden, Exeter
MOUNT EDGCUMBE, THE EARL OF	Mount Edgcumbe, Devonport
NAPIER, H. B.	Long Ashton, Bristol.
NEVILLE GRENVILLE, R.	Butleigh Court, Glastonbury

. Those to whose names an asterisk (*) is prefixed have filled the office of President.

VICE-PRESIDENTS—continued.

NORTHUMBERLAND, DUKE OF	.	.	.	Albury Park, Guildford
POLTMORE, LORD	.	.	.	Court Hall, North Molton, Devon
*RADNOR, THE EARL OF	.	.	.	Longford Castle, Salisbury
SHELLY, SIR J., BART.	.	.	.	Shobrooke Park, Crediton
SOMERVILLE, A. F.	.	.	.	Dinder House, Wells
STRACHIE, LORD	.	.	.	Sutton Court, Pensford, Somerset
TEMPLE, EARL	.	.	.	Newton St. Loe, Bristol
WYNFORD, LT.-COL. LORD, D.S.O.	.	.	.	Wynford House, Maiden Newton, Dorset

THE LORD WARDEN OF THE STANNERIES.

**THE SECRETARY AND KEEPER OF THE RECORDS OF THE DUCHY OF
CORNWALL**

THE RECEIVER-GENERAL OF THE DUCHY OF CORNWALL.

. Those to whose names an asterisk (*) is prefixed have filled the office of President.

MEMBERS OF COUNCIL.

EX-OFFICIO MEMBERS.

THE PATRON.
THE PRESIDENT.

THE VICE-PRESIDENTS.
THE TRUSTEES.
THE TREASURER.

ELECTED MEMBERS.

WESTERN DIVISION (DEVON AND CORNWALL).

Elected in 1925.

(12 Representatives.)

Elected in 1926.

Name.	Address.
BOSCAWEN, REV. A. T.	Ludgvan Rectory, Long Rock, R.S.O., Cornwall
CAVE, E. C.	Pacombe, Sidford, Sidmouth, Devon
DAW, J. E.	4, Louisa Terrace, Exmouth
IMBERT-TERRY, F. B.	Blue Hayes, Broadclyst, Devon
LOPES, SIR HENRY	Maristow, Roborough, Y. B., Bart.
MARTYN, G.	Liskeard, Cornwall

Name.	Address.
ACLAND, RT. HON. SIR	Killertqn, Exeter.
F. DYKE, Bart.	
BUCKINGHAM, REV.	The Rectory, Doddish-PREB.
GIBBS, MAJOR A. H.	Pytle, Clyst St. George, Exeter
KINGWELL, H. J.	Bow Grange, Totnes Devon
SHELLEY, J. F.	Posbury House, Crediton
WILLIAMS, JOHN	Scorrier House, Scorrier, Cornwall

CENTRAL DIVISION (SOMERSET, DORSET, AND WILTS.).

(24 Representatives.)

FARWELL, MAJOR E. W.	Hylton Estate Office, Kilmersdon, Bath
GORDON, G. H.	The Barn House, Sherborne, Dorset
HILL, MAJOR V. T.	Westspring Priory, near Weston-super-Mare
HOARE, SIR H. H. A., Bart.	Stourhead, Zeals, S.O., Wilts
HURLE, J. C.	Kilve Court, Bridgwater
KNIGHT, S. J.	Buckingham Lodge, Keynsham, Bristol
POPHAM, H. L.	Hunstrete House, Pensford, Bristol
RAWLENCE, E. A.	St. Andrew's, Salisbury
RAWLENCE, G. N.	Salisbury
SHAW, COL. F. S. KENNEDY	Teffont Magna, Salisbury
WATSON, CAPT. THE	Cornistow, Milverton, Somerset
HON. T. H.	
WHITE, A. R., O.B.E.	Charnage, Mere, Wilts

BEAUCHAMP, SIR F. B.	Woodboro' House, Pease down St. John, Bath
BRUFORD, R.	Nerrols, Taunton
CLIVE, CAPT. E. A. B.	South Brympton, Yeovil
FOLKESTONE, VISC.	Longford Castle, Salisbury
GIBSON, J. T.	Warren House, Wrington
HORHOUSE, A. I.	Hadspen House, Castle Cary, Somerset
LIPSCOMB, G.	Claverton Lodge, Bathwick hill, Bath
MILES, SIR C., Bart.	Manor House, Walton-in-Gordano, Clevedon
NICHOLS, G.	Demerara House, Colston Avenue, Bristol
PASS, MAJOR A. D.,	Manor House, Wootton Fitzpaine, Charnmouth, Dorset
PEARCE, T. H.	Parsonage Farm, Long Ashton, Bristol
SANDERS, LIEUT.-COL.,	Bayford Lodge, Wincanton
THE RIGHT HON.	
SIR R. A., Bart., M.P.	

SOUTHERN DIVISION (HANTS, BERKS, OXON, BUCKS, MIDDLESEX, SURREY, SUSSEX AND KENT.)

(12 Representatives.)

ISMAY, J. H.	Iwerne Minster, Blandford
LLEWELLYN, CAPTAIN	
L. T. E.	Hackwood, Basingstoke
LYMINGTON, VISCOUNT	Old Manor Farm, Ellisfield, Basingstoke
ORDE POWLETT, HON.	Bolton Hall, Leyburn N.A.
N.A.	Yorkshire
WARD, R. BRUCE	Godinton, Ashford, Kent

BATHURST, SIR F. H.,	Somborne Park, Kings
Bart., D.S.O.	Somborne, Hants
BENYON, H. A.	Upton Court, Reading
COBB, R. L.	Wathurst, nr. Rochester
JERVOISE, MAJOR	Herriard Park, Basingstoke
F. H. T.	
SUTTON, E. P. F.	Sidmouth Grange, Earley Berks

NORTH-WESTERN DIVISION (WORCESTERSHIRE, GLOUCESTERSHIRE, HEREFORDSHIRE, MONMOUTHSHIRE AND WALES).

(10 Representatives.)

ACKERS, C. P.	Huntley Manor, Glos.
ALEXANDER, HUBERT	5, High Street, Cardiff
DRUMMOND, COL.	Cawdor Estate Office, F. D. W., C.B.E.
Carmarthen	
PRICE, SIR F., Bart.	Hensol Castle, Pontyclun, Glam.
SWANSEA, LORD, D.S.O.	Caer Heris, Builth, Breconshire
M.V.O.	

BEST, CAPT. W.	Vivod, Llangollen
FOX, R. A.	Yate House, Yate, Glos
MASTERS, A.	Kynetton, Thornbury, Glos.
MASON, F. F.	Swansea
STORRAR, J. I.	Tredegar Estate Office, Newport, Mon.

WITHOUT REFERENCE TO DISTRICT DIVISION.

(8 Representatives.)

BEST, HON. J. W.	Hincknowle, Melpash, Dorset
FULLER, MAJOR R. F.	Great Chalfield, Melksham, Wilts.
KNOLLYS, C. R.	Richmond Lodge, Richmond Hill, Bath
POWLETT, A. T.	42, Milsom Street, Bath

BAMFORD JOSEPH	Leighton Iron Works, Uttroter
DREW, W.	Albion Iron Works, Leigh Lancashire
GIBBS, COL. W. O.	Home Farm, Barrow Gurney
GRAHAM CLARKE, CAPT. J. E. H.	Procester Manor, Stonehouse, Glos.

STANDING COMMITTEES, 1926-27.(The **PRESIDENT** is an *ex-officio* Member of all Committees.)**ALLOTMENT.****BEST, CAPT W.,** *Chairman.*

BATH, MARQUIS OF, K.G.
BATHURST, SIR F. H.,
 Bart., D.S.O.
CAVE, E. C.

FOLKESTONE, VISCOUNT
MASON, F. F.
NAPIER, H. B.

SHELLEY, J. F.
WYNFORD, LIEUT.-COL.
 LORD, D.S.O.

CONTRACTS.**NAPIER, H. B.,** *Chairman.*

BATH, MARQUIS OF, K.G.
BATHURST, SIR F. H.,
 Bart., D.S.O.

BEST, CAPT. W.
DAW, J. E.
FOLKESTONE, VISCOUNT

KINGWELL, H. J.
MASON, F. F.
PEARCE, T. H.

DAIRY.**SOMERVILLE, A. F.,** *Chairman.*

CLIVE, CAPTAIN E. A. B.
GIBBS, MAJOR A. H.
GIBSON, J. T.
HURLE, J. C.

KNIGHT, S. J.
LLEWELLYN, CAPT. L. T. E.
MILES SIR C., Bart
RAWLENCE, G. N.

STRACHIE, LORD
VOELCKER, DR. J. A.,
 M.A.
WHITE, A. R., O.B.E.

DISQUALIFYING.**THE STEWARDS OF LIVE STOCK AND PRODUCE.****EXPERIMENTS AND EDUCATION.****LORD BLEDISLOE, K.B.E.,** *Chairman.*

ACKERS, C. P.
CUNDALL, H. M., I.S.O.,
 F.S.A.
DAW, J. E.
FARWELL, MAJOR E. W.
GIBSON, J. T.
HANLEY, DR. J. A.

HOBHOUSE, A. L.
HURLE, J. C.
ISMAY, J. H.
LIPSCOMB, G.
NAPIER, H. B.
PENBERTHY, PROF. J.,
 F.R.C.V.S.

POWLETT, A. T.
RAWLENCE, E. A.
SOMERVILLE, A. F.
SUTTON, E. P. F.
VOELCKER, DR. J. A., M.A.
WALLACE, CAPT. T.,
 M.Sc., M.C.

(With power to add to their number.)

FINANCE.**NAPIER, H. B.,** *Chairman.***DAW, J. E.****GIBBS, MAJOR A. H.****FORESTRY.****LIPSCOMB, G.,** *Chairman.*

ACKERS, C. P.
BEST, HON. J. W.
BLENSLOE, LORD, K.B.E.
CLINTON, LORD

DRUMMOND, COL. F. D. W.
 C.B.E.
FOLKESTONE, VISCOUNT
HOARE, SIR H. H. A., Bart.

NAPIER, H.B.
ORDE POWLETT, HON.
 N. A.

IMPLEMENT REGULATIONS.BATH, MARQUIS OF, K.G., *Chairman.*

BAMFORD J.	BEST, HON. J. W.	MARTYN, G.
BATHURST, SIR F. H.,	DREW, W.	MASON, F. F.
Bart., D.S.O.	FOLKESTONE, VISCOUNT	NAPIER, H. B.
BEST, CAPT. W.		

JOURNAL.*Chairman.*

ACLAND, RT. HON. SIR F. D., Bart.	KNOLLYS, C. R.
HURLE, J. C.	

JUDGES' SELECTION.WYNFORD, LIEUT.-COL. LORD, D.S.O., *Chairman.*

ALEXANDER, HUBERT	HOARE, SIR H.H.A., Bart.	NAPIER, H. B.
BATHURST, SIR F. H.,	MASON, F. F.	SHAW, COL. F. S.
Bart, D.S.O.	MILES SIR C., Bart.	KENNEDY
GORDON, G.	MOORE-STEVENS, COL.	SHELLEY, J. F.
	R. A.	STORRAR, J. I.

RAILWAY ARRANGEMENTS AND ADVERTISEMENTS.HOARE, SIR H. H. A., Bart., *Chairman.*

BLEDISLOE, LORD, K.B.E.	DREW, W.	NICHOLS, G.
DAW, J. E.	MASON, F. F.	SHELLEY, J. F.

(With power to add to their number.)

SELECTION.

THE CHAIRMEN OF ALL OTHER COMMITTEES.

SHOW PLACE AND DATE.

CHAIRMAN OF THE ALLOTMENT, CONTRACTS, DAIRY, FINANCE, FORESTRY,
 IMPLEMENT REGULATIONS, RAILWAY ARRANGEMENTS,
 EXPERIMENTS AND EDUCATION, AND STOCK PRIZE SHEET COMMITTEES.
 (With power to add two Local Members to their number.)

STOCK PRIZE SHEET.WYNFORD, LIEUT.-COL. LORD, D.S.O., *Chairman.*

ALEXANDER, HUBERT	HOARE, SIR H. H. A.,	SHAW, COL. F. S.
BATHURST, SIR F. H.,	Bart.	KENNEDY
Bart., D.S.O.	KINGWELL, H. J.	SHELLEY, J. F.
BRUFORD, R.	MASON, F. F.	STORRAR, J. I.
GIBBS, MAJOR A. H.	MILES, LIEUT.-COL. SIR	SUTTON, E. P. F.
GIBBS, COL. W. O.	C., Bart.	WHITE, A. R., O.B.E.
	MOORE-STEVENS, COL.	
	R.A.	

WORKS.

Chairman.

BATH, MARQUIS OF, K.G.
BATHURST, SIR F. H., Bart., D.S.O.
BEST, CAPT. W.
CAVE, E. C.

FOLKESTONE, VISCOUNT.
MASON, F. F.
NAPIER, H. B.

Stewards.

Cattle, Sheep, Goats and Pigs.

SHELLEY, J. F.
MILES, LIEUT.-COL. SIR C., Bart.
STORRAR, J. I.

Cider.

FARWELL, MAJOR E. W.

Dairy.

SOMERVILLE, A. F.
GIBBS, MAJOR A. H.

Education.

CUNDALL, H. M. (I.S.O., F.S.A.)

Experiments.

ACKERS, C. P.

Finance.

NAPIER, H. B.
DAW, J. E. GIBBS, MAJOR A. H.

Forage.

KINGWELL, H. J.

Forestry.

LIPSCOMB, G.

Horses.

WYNFORD, LIEUT.-COL. LORD, D.S.O.
HOARE, SIR H. H. A., Bart.
ALEXANDER, HUBERT.

Horticulture.

BOSCAWEN, REV. A. T.

Music.

CUNDALL, H. M. (I.S.O., F.S.A.).

Poultry, Pigeons and Rabbits.

BRUFORD, R.

Shoeing.

MASON, F. F.

Yard.

BEST, CAPT. W.
BATHURST, SIR F. H., Bart., D.S.O.
FOLKESTONE, VISCOUNT.

Society's Representatives on Governing Bodies and Committees.

Royal Agricultural College, Cirencester—PENBERTHY, Prof. J. (F.R.C.V.S.)

Dauntsey School Foundation—WHITE, A. R., O.B.E.

National Fruit and Cider Institute—NAPIER, H. B., ACKERS, C. P.

Sugar Beet Growers' Society—ALEXANDER, HUBERT.

South Eastern Agricultural College, Wye—ASHCROFT, W.

Dairy Research Committee of University College, Reading—SOMERVILLE, A. F.

Agricultural Education Committee of Wilts County Council—WHITE, A. R., O.B.E.

Bristol University Sub-Committee—LIPSCOMB, G.

Permanent Officials.

Treasurer—LUTTRELL, C. M. F.

Secretary and Editor—STORR, F. H., O.B.E.

Assistant Secretary—SMITH, W. A.

Auditor.

GOODMAN, F. C. A. (*Chartered Accountant*)

Veterinary Inspector.

PENBERTHY, PROF. J. (F.R.C.V.S.).

Consulting Chemist.

VOELCKER, DR. J. A. (M.A., F.I.C.)

Superintendent of Works.

AYRE, H. C.

ANNUAL EXHIBITIONS.

Year.	Place Visited.	Local Subscrip- tion.	Prizes.			Total Local Contri- bution.	President.	Admissions.		
			Local Com- mittee.	Local Societies.	Local Resi- dents.			On 2/6 Days.	On 1/- Days.	Total.
1854	Bath	£ 450	£ ..	£ ..	£ ..	£ 450	William Miles, M.P.	..	..	..
1855	Tiverton	450	..	..	..	450	Earl Fortescue	..	..	..
1856	Yeovil	450	..	..	..	450	C. A. Moody, M.P.	..	..	..
1857	Newton Abbot	700	..	..	..	700	Lord Courtenay	..	..	..
1858	Cardiff	800	..	..	..	800	Lord Courtenay	..	..	..
1859	Barnstaple	800	85	..	81	966	John Sillifant	..	..	..
1860	Dorchester	900	..	..	..	900	Lord Rivers	10,709	11,949	22,658
1861	Truro	900	..	..	..	900	J. W. Buller, M.P.	16,201	14,220	29,421
1862	Wells	900	..	..	..	900	Sir T. D. Acland, Bart.	10,578	4,775	15,353
1863	Exeter	900	..	..	..	900	Marquis of Bath	15,635	19,284	34,919
1864	Bristol	1000	106	..	50	1156	Earl Fortescue	22,377	65,678	88,055
1865	Hereford	900	358	..	..	1258	Lord Taunton	16,575	35,261	51,836
1866	Salisbury	900	57	..	..	957	(Earl of Portsmouth	7,288	18,737	26,025
1867	Salisbury	..	..	..	..	..	(J. Tremayne	7,502	16,702	24,204
1868	Falmouth	900	..	..	..	900	Sir J. T. B. Duckworth, Bart.	11,393	19,495	30,888
1869	Southampton	900	132	..	18	1050	Earl of Carnarvon	16,340	41,280	56,630
1870	Taunton	900	..	..	..	900	Sir S. H. Northcote, Bart., C.B., M.P.	17,952	33,653	51,605
1871	Guildford	900	110	..	..	1010	Earl of Cork	10,656	23,406	34,062
1872	Dorchester	800	..	..	10	810	Duke of Marlborough, K.G.	12,791	21,517	34,308
1873	Plymouth	800	..	400	..	1200	Earl of Mount-Edgumbe	16,665	45,744	62,409
1874	Bristol	800	403	..	..	1203	Sir Massey Lopes, Bart., M.P.	37,329	72,791	110,120
1875	Croydon	800	245	..	..	1045	R. Benyon, M.P.	14,518	26,028	40,546
1876	Hereford	800	381	..	..	1181	Earl of Ducie	16,396	32,645	49,041
1877	Bath	800	215	..	..	1015	Marquis of Lansdowne	27,625	48,852	76,477
1878	Oxford	800	..	170	6	976	Earl of Jersey	12,414	26,995	39,409
1879	Exeter	800	..	..	10	810	Earl of Morley	14,634	40,533	55,167
1880	Worcester	800	..	254	..	1054	Earl of Coventry	8,415	37,675	46,090

ANNUAL EXHIBITIONS—continued.

Year.	Place Visited.	Local Subscrip- tion.	Prizes.			Total Local Contri- bution.	President.	Admissions.			Total.
			Local Com- mittee.	Local Societies.	Local Resi- dents.			On 5/- Day.	On 2/6 Days.	On 1/- Days.	
		£	£	£	£	£					
1881	Tunbridge Wells	800	245	34	..	1079	Marquis of Abergavenny	..	13,368	33,236	46,604
1882	Cardiff	800	200	198	17	1215	Lord Tredegar	..	23,941	38,080	62,021
1883	Bridgwater	800	78	..	..	878	Lord Brooke, M.P.	..	17,171	31,241	48,412
1884	Maidstone	800	310	33	75	1218	Viscount Holmesdale	..	13,501	31,053	44,554
1885	Brighton	800	227	33	82	1142	Viscount Hampden	..	9,637	39,851	49,488
1886	Bristol	800	525	..	..	1325	Lord Carlingford	..	29,580	70,999	100,579
1887	Dorchester	800	..	112	..	912	Earl of Ilchester	..	8,860	29,846	38,706
1888	Newport (Mon.)	800	100	..	..	900	Lord Tredegar	..	14,878	38,567	53,445
1889	Exeter	800	..	..	10	810	Lord Clinton	..	16,405	36,195	52,600
1890	Rochester	800	294	..	26	1120	Earl of Darnley	..	3,480	48,314	51,794
1891	Bath	800	50	103	100	1053	Earl Temple	..	23,510	52,185	75,695
1892	Swansea	800	200	100	10	1110	Sir J. D. T. Llewellyn, Bart.	..	18,364	54,609	72,973
1893	Gloucester	800	400	..	..	1200	Lord Fitzhardinge	..	14,272	40,368	54,640
1894	Guildford	800	174	..	10	984	Earl of Onslow	..	8,671	29,813	38,484
1895	Taunton	800	85	160	10	1055	Viscount Portman	..	13,181	30,111	43,292
1896	St. Albans	800	152	..	..	952	Earl of Clarendon	..	12,056	22,380	34,436
1897	Southampton	800	50	..	..	850	Lord Montagu of Beaulieu	..	8,284	33,750	42,034
1898	Cardiff	800	200	..	..	1000	Lord Windsor	..	13,101	42,501	55,602
1899	Exeter	800	..	225	5	1030	Lord Clinton	..	16,091	39,832	55,923
1900	Bath	800	100	150	10	1060	Marquis of Bath	954	11,601	36,814	49,369
1901	Croydon	800	115	..	..	915	(H.R.H. The Duke of Cornwall and York, K.G.)	1,196	9,362	30,093	41,251
1902	Plymouth	800	105	100	36	1041	Earl of Morley	842	12,629	40,565	54,036
1903	Bristol	800	434	50	61	1345	Duke of Beaufort	..	34,528	74,322	108,880
1904	Swansea	800	350	..	..	1150	Lord Windsor	..	28,265	50,562	78,827
1905	Nottingham	800	..	218	..	1018	Duke of Portland, K.G.	..	8,913	45,964	54,877
1906	Swindon	800	..	200	50	1050	Earl of Radnor	..	7,838	42,013	49,851

ANNUAL EXHIBITIONS—continued.

Year.	Place Visited.	Local Subscrip- tion.	Prizes.			Total Local Contri- bution.	President.	Admissions.				Total.
			Local Com- mittee.	Local Societies.	Local Res- dents.			On 5/- Day.	On 2/6 Days.	On 3/- Days.	On 1/ Days.	
1907	Newport (Mon.)	£ 800	£ 201	£ 51	£ 29	£ 1081	H.R.H. The Prince of Wales, K.G.	..	16,236		37,819	54,055
1908	Dorchester .	800	100	25	..	925	Lord Digby .	..	12,227		20,350	32,577
1909	Exeter .	800	..	100	..	900	Lord Clinton .	..	14,898		41,891	56,789
1910	Rochester and Chatham .	800	117	..	..	917	Earl of Darley .	..	5,892		20,105	25,997
1911	Cardiff .	800	195	110	10	1115	Marquis of Bute .	..	16,213		40,588	56,801
1912	Bath .	800	100	100	..	1000	Marquis of Bath .	..	13,843		40,935	54,786
1913	Truro .	800	35	115	39	918	Viscount Falmouth .	..	12,918		44,700	57,618
1914	Swansea .	800	301	..	..	1101	Sir J. T. D. Llewelyn, Bart.	..	17,957		67,805	85,762
1915	Worcester .	400	..	257	..	657	The Earl of Coventry .	..	7,760		28,013	35,773
1916	No Shows						The Earl of Coventry .		4/-		2/-	
1919							The Earl of Radnor .	..	19,392		25,255	44,647
1920	Salisbury .	800	24	105	131	1060	The Lord Bledisloe, K.B.E.	5105	36,068		58,473	98,646
1921	Bristol .	800	1000	354	..	2154	H.R.H. The Prince of Wales, K.G.	4124	19,289	20,558	34,856	58,269
1922	Plymouth .	800	132	281	200	1213	H.R.H. The Prince of Wales, K.G.	434	12,286		78,162	115,345
1923	Swansea .	800	295	100	..	1295	Sir Dennis F. Boles, Bart. C.B.E., D.L.	2267	9,693	17,882	16,121	45,963
1924	Taunton .	800	29	100	..	929	Col. F. S. W. Cornwallis, C.B.E., D.L.	2019	3,618	7,206	25,653	38,496
1925	Maidstone .	800	122	100	..	1022	The Earl of Clarendon .	1442	2,667	4,869	14,271	23,249
1926	Watford .	800	28	171	..	999	H.R.H. The Duke of York, K.G.					
1927	Bath .	800	149-10	..	..	949-10						

MEMBERS' PRIVILEGES.

ANALYSES OF FERTILISERS, FEEDING STUFFS, WATERS, SOILS, &c.

Applicable only to the case of Persons who are not commercially engaged in the manufacture or sale of any substance sent for Analysis).

Members of the Bath and West and Southern Counties Society, who may also be Members of other Agricultural Societies, are particularly requested in applying for Analyses, to state that they do so as Members of the first-named Society.

THE following are the rates of charges for Chemical Analyses to Members of the Society.

These privileges are applicable only when the analyses are for *bona-fide* agricultural purposes, and are required by Members of the Society for their own use and guidance in respect of farms or land in their own occupation and within the United Kingdom.

The analyses are given on the understanding that they are required for the individual and sole benefit of the Member applying for them, and must not be used for other persons, or for commercial purposes.

Land or estate agents, bailiffs, and others, when forwarding samples are required to state the names of those Members on whose behalf they apply.

Members are also allowed to send for analysis under these privileges, any manures or feeding-stuffs to be used by their outgoing tenants, or which are to be given free of cost to their occupying tenants.

The analyses and reports may not be communicated to either vendor or manufacturer, except in cases of dispute.

Members are requested, when applying for an analysis, to quote the number in the subjoined schedule under which they wish it to be made.

No.

1.—An opinion of the purity of bone-dust or oil-cake (each sample)	2s. 6d.
2.—An analysis of sulphate or muriate of ammonia, or of nitrate of soda, together with an opinion as to whether it be worth the price charged	5s.
3.—An analysis of guano, showing the proportion of moisture, organic matter, sand, phosphate of lime, alkaline salts and ammonia, together with an opinion as to whether it be worth the price charged	10s.
4.—An analysis of mineral superphosphate of lime for soluble phosphates only, together with an opinion as to whether it be worth the price charged	5s.
5.—An analysis of superphosphate of lime, dissolved bones, etc., showing the proportions of moisture, organic matter, sand, soluble and insoluble phosphates, sulphate of lime and ammonia, together with an opinion as to whether it be worth the price charged	10s.
6.—An analysis of bone-dust, basic slag, or any other ordinary artificial manure, together with an opinion as to whether it be worth the price charged	10s.
7.—An analysis of compound artificial manures, animal products, refuse substances used for manure, etc.	from 10s. to £1
8.—An analysis of limestone, showing the proportion of lime	7s. 6d.
9.—An analysis of limestone, showing the proportion of lime and magnesia	10s.
10.—An analysis of limestone or marls, showing the proportion of carbonate, phosphate, and sulphate of lime and magnesia, with sand and clay	10s.
11.—Partial analysis of a soil, including determinations of clay, sand, organic matter, and carbonate of lime	£1
12.—Complete analysis of a soil	£3
13.—An analysis of oil-cake or other substances used for feeding purposes, showing the proportion of moisture, oil, mineral matter, albuminous matter, and woody fibre as well as of starch, gum, and sugar in the aggregate; and an opinion of its feeding and fattening or milk-producing properties	10s.
14.—Analysis of any vegetable product	10s.
15.—Determination of the "hardness" of a sample of water before and after boiling	5s.
16.—Analysis of water of land-drainage, and of water used for irrigation	£1
17.—Analysis of water used for domestic purposes	£1 10s.
18.—An analysis of milk (to assist Members in the management of their Dairies and Herds, <i>bona-fide</i> for their own information and not for trade purposes, nor for use in connection with the Sales of Food and Drugs Acts)	5s.
19.—Personal consultation with the Consulting Chemist. (To prevent disappointment it is suggested that Members desiring to hold a consultation with the Consulting Chemist should write to make an appointment)	5s.
20.—Consultation by letter	5s.
21.—Consultation necessitating the writing of three or more letters	10s.

Members wishing to exercise their privileges on the above-named terms, should forward their samples for examination *by post or parcel prepaid*, to the Consulting Chemist, DR. JOHN AUGUSTUS VOELCKER, M.A., F.I.C., Stuart House, 1, Tudor Street, London, E.C.

The fees for analysis must be sent to the Consulting Chemist at the time of application.

GUIDE TO PURCHASERS OF FERTILISERS AND FEEDING STUFFS.

Purchasers are recommended in every case to insist upon having an *Invoice* given to them. This invoice should set out clearly:—

In the case of **Fertilisers**—

- (1) The **name** of the fertiliser ;
- (2) Whether the fertiliser be artificially **compounded** or not ;
- (3) The **analysis** guaranteed in respect of the principal fertilising ingredients.

In the case of **Feeding-Stuffs**—

- (1) The **name** of the article ;
- (2) The **description** of the article ; whether it has been made from one substance or seed only, or from more than one ;
- (3) The **analysis** guaranteed in respect of Oil and Albuminoids.

NOTE.—The use of terms “Linseed-cake,” “Cotton-cake,” etc., implies that these cakes shall be “pure,” and purchasers are recommended to insist upon these terms being used without any qualification, such as “95 per cent.,” “as imported,” etc. “Oil-cake” should be avoided.

Members of the Society should see that the **Invoices** agree accurately with the orders given by them, and, in giving these orders, they should stipulate that the goods come up to the guarantee set out in the following list, and that they be sold **subject to the analysis and report of the Consulting Chemist of the Bath and West and Southern Counties Society.**

FERTILISERS.

Raw Bones, Bone-meal, or Bone-dust to be guaranteed “**PURE**,” and to contain not less than 45 per cent. of Phosphate of Lime, and not less than 4 per cent. of Ammonia.

Steamed or “Degelatinised” Bones to be guaranteed “**PURE**,” and to contain not less than 55 per cent. of Phosphate of Lime, and not less than 1 per cent. of Ammonia.

Mineral Superphosphate of Lime to be guaranteed to contain a certain percentage of “Soluble Phosphate.” (From 25 to 28 per cent. of Soluble Phosphate is an ordinarily good quality.)

Dissolved Bones to be guaranteed to be “made from raw bone and acid only,” and to be sold as containing stated percentages of Soluble Phosphate, Insoluble Phosphates, and Ammonia.

Compound Artificial Manures, Bone Manures, Bone Compounds, etc., to be sold by analysis stating the percentages of Soluble Phosphate, Insoluble Phosphates and Ammonia contained.

Basic Slag to be guaranteed to contain a certain percentage of Phosphoric Acid and to be sufficiently finely ground that 80 to 90 per cent. passes through a sieve having 10,000 meshes to the square inch.

Peruvian Guano to be described by that name, and to be sold by analysis stating the percentages of Phosphates and Ammonia.

Sulphate of Ammonia to be guaranteed to be “**PURE**,” and to contain not less than 24 per cent. of Ammonia.

Nitrate of Soda to be guaranteed to be “**PURE**,” and to contain 95 per cent. of Nitrate of Soda.

FEEDING-STUFFS.

Linseed Cake, Cotton Cake (Decorticated and Undecorticated), and **Rape Cake** (for feeding purposes) to be pure, i.e., prepared *only* from one kind of seed from which their name is derived, and to be in sound condition. The report of the Consulting Chemist of the Bath and West and Southern Counties Society to be conclusive as to the "purity" or otherwise of any feeding-stuffs. The percentages of Oil and Albuminoids must also be guaranteed.

Mixed Feeding Cakes, Meals, etc., to be sold on a guaranteed analysis.

All Feeding-Stuffs to be sold in sound condition, and to contain nothing of an injurious nature or worthless for feeding purposes.

INSTRUCTIONS FOR SELECTING AND SENDING SAMPLES FOR ANALYSIS.

GENERAL RULES.

1. A sample taken for analysis should be fairly *representative of the bulk* from which it has been drawn.
2. The sample should reach the Analyst *in the same condition* as it was at the time when drawn.

FERTILISERS.

When **Fertilisers** are delivered in bags, select four or five of these from the bulk, and either turn them out on a floor and rapidly mix their contents, or else drive a shovel into each bag and draw out from as near the centre as possible a couple of shovelfuls of the manure, and mix these quickly on a floor.

Halve the heap obtained in either of these ways, take one-half (rejecting the other) and mix again rapidly, flattening down with the shovel any lumps that appear. Repeat this operation until at last only some three or four pounds are left.

From this fill three tins, holding from $\frac{1}{2}$ lb. to 1 lb. each, mark, fasten up and seal each of these. Send one for analysis, and retain the others for reference.

Or—the manure may be put into glass bottles provided with well-fitting corks, the bottles should be labelled and the corks sealed down. The sample sent for analysis can be packed in a wooden box and sent by post or rail.

When manures are delivered in bulk, portions should be successively drawn from *different parts* of the bulk, the heap being turned over now and again. The portions drawn should be thoroughly mixed, sub-divided, and, finally, samples should be taken as before, except that when the manure is coarse and bulky it is advisable to send larger samples than when it is in a finely-divided condition.

FEEDING-STUFFS.

Linseed, Cotton, and other Feeding Cakes.—If a single cake be taken, three strips should be broken off right across the cake and from the middle portion of it, one piece to be sent for analysis, and the other two retained for reference. Each of the three pieces should be marked, wrapped in paper, fastened up and sealed. The piece forwarded for analysis can be sent by post or rail.

A more satisfactory plan is to select four to six cakes from different parts of the delivery, then break off a piece about four inches wide from the middle of each cake, and pass these pieces through a cake-breaker. The broken cake should then be well mixed, and three samples of about 1 lb. each should be taken and put in tins or bags duly marked, fastened, and sealed as before. One of

these lots should be sent for analysis, the remaining two being kept for reference. It is advisable also, with the broken pieces, to send a small strip from an unbroken cake.

Feeding Meals, Grain, etc.—Handfuls should be drawn from the centre of half-a-dozen different bags of the delivery; these lots should then be well mixed, and three $\frac{1}{2}$ lb. tins or bags filled from the heap, each being marked, fastened up, and sealed. One sample is to be forwarded for analysis and the others retained for reference.

SOILS, WATERS, &c.

Soils.—Have a wooden box made, 6 inches in length and width, and from 9 to 12 inches deep, according to the depth of soil and subsoil of the field. Mark out in the field a space of about 12 inches square; dig round in a slanting direction a trench, so as to leave undisturbed a block of soil and its subsoil 9 to 12 inches deep; trim this block to make it fit into the wooden box, invert the open box over it, press down firmly, then pass a spade under the box and lift it up gently, turn over the box, nail on the lid, and send by rail. The soil will then be received in the position in which it is found in the field.

In the case of very light, sandy, and porous soils, the wooden box may be at once inverted over the soil and forced down by pressure, and then dug out.

Waters.—Samples of water are best sent in glass stoppered Winchester bottles holding half a gallon. One such bottle is sufficient for a single sample. Care should be taken to have these scrupulously clean. In taking a sample of water for analysis it is advisable to reject the first portion drawn or pumped, so as to obtain a sample of the water when in ordinary flow. The bottle should be rinsed out with the water that is to be analysed, and it should be filled nearly to the top. The stopper should be secured with string, or be tied over with linen or soft leather. The sample can then be sent carefully packed either in a wooden box with sawdust, etc., or in a hamper with straw.

Milk.—A pint bottle should be sent in a wooden box.

GENERAL INSTRUCTIONS.

Time for Taking Samples.—All samples, both of fertilisers and feeding-stuffs, should be taken as soon after their delivery as possible, and should reach the Analyst within *ten days* after delivery of the article. In every case it is advisable that the Analyst's certificate be received before a fertiliser is sown or a feeding-stuff is given to stock.

Procedure in the event of the Vendor wishing Fresh Samples to be Drawn.—Should a purchaser find that the Analyst's certificate shows a fertiliser or feeding-stuff not to come up to the guarantee given him, he may inform the vendor of the result and complain accordingly. He should then send to the vendor *one* of the two samples which he has kept for reference. If, however, the vendor should demand that a fresh sample be drawn, the purchaser must allow this, and also give the vendor an opportunity of being present, either in person or through a representative whom he may appoint. In that case, three samples should be taken in the presence of both parties with the same precautions as before described, *each* of which should be duly packed up, labelled and *sealed* by both parties. One of these is to be given to the vendor, one is to be sent to the Analyst, and the third is to be kept by the purchaser for reference or future analysis if necessary.

All samples intended for the Consulting Chemist of the Society should be addressed (postage or carriage prepaid), to Dr. J. AUGUSTUS VOELOKER, M.A., F.I.C., Stuart House, 1, Tudor Street, New Bridge Street, London, E.C. Separate letters of instruction should be sent at the same time.

BATH MEETING,

MAY 24, 25, 26, 27 and 28, 1927.

MONEY PRIZES.

							PAGE
HORSES	..	..	..	..	£1,274	0 0	cxxy
CATTLE	..	..	..	..	1,576	15 0	cxlii
SHEEP	..	..	..	..	644	0 0	cxlix
GOATS	..	..	..	..	38	0 0	cli
PIGS	..	..	..	..	572	0 0	clii
CIDER	..	..	..	..	60	0 0	clv
CHEESE	..	..	..	..	114	0 0	clv
CREAM CHEESE, BUTTER AND CREAM	..				46	10 0	clvi
BUTTER-MAKING	..	..	..	..	38	0 0	clvi
MILKING	..	..	..	..	12	0 0	clvii
SHOEING	..	..	..	..	45	0 0	clvii
POULTRY	..	..	..	..	231	0 0	clviii
PIGEONS	..	..	..	..	30	16 0	clix
RABBITS	..	..	..	..	24	16 0	clx
SMALL HOLDINGS AND ALLOTMENTS	..				40	10 0	
					£4,747	7 0	

DONORS OF MEDALS, PLATE, Etc.

H.R.H. The Prince of Wales, K.G.	English Aberdeen-Angus Cattle
Bath and West Society	Association
Shire Horse Society	Ayrshire Cattle Society
Bath Corporation	British Kerry Cattle Society
Hunters' Improvement and National	Dexter Cattle Society
Light Horse Breeding Society	English Jersey Cattle Society
Arab Horse Society	Southdown Sheep Society
J. C. Duffus	Sir F. H. Bathurst, Bart., D.S.O.
Hackney Horse Society	British Goat Society
National Pony Society	Large Black Pig Society
A Member of the Society	National Pig Breeders' Association
British Show Jumping Association	Gloucestershire Old Spots Pig Society
Shorthorn Society	F. H. Turnbull
Aberdeen-Angus Cattle Society	Bennett and Howard
Red Poll Cattle Society	Wessex Saddleback Pig Society
Welsh Black Cattle Society	Bowyers (Wiltshire Bacon), Ltd.
Sussex Herd Book Society	

DONORS OF MONEY PRIZES.

Bath and West and Southern Counties Society	..	..	£3,788	18	8
Bath Local Committee	..	..	149	10	0
Shire Horse Society (or Medal)	..	..	7	0	0
Suffolk Horse Society	..	..	20	0	0
Arab Horse Society	..	..	25	0	0
Dartmoor Pony Society	..	..	10	0	0
Exmoor Pony Society	..	..	10	0	0
Devon Cattle Breeders' Society	..	..	10	0	0
South Devon Herd Book Society	..	..	15	5	0
Shorthorn Society	..	..	30	0	0
Dairy Shorthorn Association	..	..	20	0	0
Hereford Herd Book Society	..	..	20	0	0
Sussex Herd Book Society	..	..	10	0	0
British Friesian Cattle Society	..	..	75	10	0
English Aberdeen-Angus Cattle Association	..	..	20	0	0
Red Poll Cattle Society	..	..	20	0	0
Welsh Black Cattle Society	..	..	10	0	0
Meyrick, Sir Geo.	..	..	15	0	0
Ayrshire Cattle Society (The English Committee)	..	..	15	0	0
Blue Albion Cattle Society	..	..	22	13	4
English Jersey Cattle Society	..	..	10	0	0
English Guernsey Cattle Society	..	..	25	0	0
British Kerry Cattle Society	..	..	15	0	0
Dexter Cattle Society	..	..	15	0	0
Royal Jersey Agricultural Society	..	..	10	10	0
Devon Longwooled Sheep Breeders' Society	..	..	10	0	0
Kent or Romney Marsh Sheep Breeders' Association	..	..	17	0	0
Southdown Sheep Society	..	..	17	0	0
Hampshire Down Sheep Breeders' Association	..	..	39	0	0
Oxford Down Sheep Breeders' Association	..	..	10	0	0
Dorset Horn Sheep Breeders' Association	..	..	20	0	0
Dorset Down Sheep Breeders' Association	..	..	15	0	0
Exmoor Horn Sheep Breeders' Society	..	..	17	0	0
Suffolk Sheep Society	..	..	25	0	0
Ryeland Flock Book Society	..	..	15	0	0
Kerry Hill Flock Book Society	..	..	12	0	0
British Goat Society	..	..	15	0	0
Large Black Pig Society	..	..	20	0	0
National Pig Breeders' Association	..	..	49	0	0
Gloucester Old Spots Pig Society	..	..	20	0	0
Wessex Saddleback Pig Society	..	..	15	0	0
National Long White Lop-Eared Pig Society	..	..	20	0	0
Somerset County Agricultural Committee	..	..	36	0	0
Somerset County Education Committee	..	..	5	0	0
Somerville, A. F.	..	..	1	0	0

£4,747 7 0

PRIZES.

The Prizes in Classes 35, 57, 82, 149, 233 and the Special Local Hunter, Poultry, Pigeon and Rabbit Prizes are offered by the Bath Local Committee.

An Animal can be entered in as many Classes as it is eligible for on payment of an additional fee in each Class. No additional fee is, however, payable in the case of those Prizes headed as Champion or Special Prizes.

HORSES.

Exhibitors are requested to note that Animals entered in Classes 1 to 13 must be in the Yard before 8 a.m. on Tuesday, May 24, and except the Stallions in Class 7 (which can be removed after the Parade of Horses on the third day of the Show) must remain in the Yard till 6 o'clock on Saturday, May 28.

SHIRE.

(Registered or eligible for registration in the Shire Horse Society's Stud Book).

Entrance Fees.—Classes 1 and 3 to 8, including Box: Members, 25/-; Non-Members, 50/- each entry.

Class 2, Members, 5/-; Non-Members, 10/- each entry.

Judge—F. W. GRIFFIN, Boro Fen, Peterborough.

CLASS.	First Prize.	Second Prize.	Third Prize.
1.—MARE, in-foal, or with foal at foot	£ 15	£ 10	£ 3
2.—COLT or FILLY FOAL, produce of Mare in Class 1 ..	5	3	
(NOTE.—Foals must be entered in Class 2 or they cannot compete).			
3.—FILLY, foaled in 1926	10	5	3
4.—FILLY, foaled in 1925	10	5	3
5.—FILLY, foaled in 1924	10	5	3
6.—GELDING (by a registered sire), foaled in or before 1923 ..	10	5	3
7.—STALLION, foaled in 1925	10	5	3
8.—COLT, foaled in 1926	10	5	2

MEDALS.

Offered by the Shire Horse Society under Condition 47.

- (A) A Gold Medal, or the sum of £5, for the best Mare or Filly in the Shire Horse Classes, the property of a Member of the Bath and West Society elected not less than six months previous to April 6, 1927, and to the Breeder of the winner under the Condition stated, a Prize of 5
- (B) A Bronze Medal for the best exhibit in Class 6, the property of a Member of the Shire Horse Society. 2

"THE CITY OF BATH CHALLENGE VASE."

Presented by the Corporation of Bath (Cedric Chivers, Mayor, 1923), to be competed for annually and to be held by the winner for one year.

For the Best Shire Stallion exhibited.

First Prize.	Second Prize.	Third Prize.
£	£	£

SUFFOLK.

Entry Fees, including Box: Classes 9 and 11 to 13, Members, 25/-, Non-Members, 50/-. Class 10, Members, 5/-, Non-Members, 10/- each entry.

£20 towards the prizes in Classes 9 to 13 are contributed by the Suffolk Horse Society.

Judge—Sir MERRIK E. BURRELL, Bart., Knepp Castle, Horsham.

CLASS.

9.—MARE, in-foal, or with foal at foot	10	5	3
10.—COLT or FILLY FOAL, produce of Mare in Class 9 ..	5	3	
(NOTE.—Foals must be entered in Class 10 or they cannot compete).			
11.—GELDING (by a registered sire), foaled in or before 1923 ..	10	5	3
12.—FILLY, foaled in 1924 or 1925	10	5	3
13.—STALLION, foaled in 1924 or 1925	10	5	3

HUNTER.

Entry Fees, Classes 14 and 16 to 18, including Box: Members, 25/-; Non-Members, 50/-. Class 15, Members, 5/-; Non-Members, 10/- each entry.

Animals entered in Classes 14 to 18 must be in the Yard before 8 a.m.

On Tuesday, May 24, and must remain there till 1 p.m. on Thursday, May 26, when they must be removed from the yard.

Judge—Hon. ALEXANDER PARKER, Norton Curliou, Warwick.

14.—MARE, in-foal, or with foal at foot	15	10	3
15.—COLT or FILLY FOAL, produce of Mare in Class 14 ..	5	3	
(NOTE.—In Class 15 Foals must be entered or they cannot compete).			
16.—FILLY, COLT OR GELDING, foaled in 1926	10	5	3
17.—FILLY, COLT OR GELDING, foaled in 1925	10	5	3
18.—FILLY OR GELDING, foaled in 1924	10	5	3

(For Hunter Riding Classes see page 8).

SPECIAL LOCAL PRIZES.

Offered by the Bath Local Committee.

- (G) Best Animal in Class 14 exhibited by a resident within a radius of 30 miles of the Guildhall, Bath 5
- (D) Best Group of 3 Animals bred by the same owner and exhibited in Classes 16, 17 and 18 by a resident in Somerset, Wilts, or Gloucestershire 10

MEDAL.

Offered by the Hunters' Improvement and National Light Horse Breeding Society, under Condition 43.

- (E) A Gold Medal, or £5 and a Bronze Medal, for the best Hunter Breed Mare in Class 14, registered with a number in the Hunter Stud Book at the time of entry or within a month of the award, not having previously won the above-named Society's Gold Medal as a Brood Mare in 1927, and which must have her foal at foot, or produce a living foal in 1927 to a Thoroughbred Horse or Registered Hunter sire. In the second instance a certificate to that effect must be forwarded before the Medal is sent. Only Prize Winners in the Class will be eligible for the Medal.

First Prize. £	Second Prize. £	Third Prize. £
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ARABS AND PONIES.

Animals entered in Classes 19 to 29 must be in the Yard after 6 p.m. on Thursday, May 26 and before 8 a.m. on Friday, May 27, and must remain in the Yard until 6 p.m. on Saturday, May 28.

ARAB.

Entries in Class 19 must be registered or accepted for registration in the Arab Horse Stud Book.

£25 towards the prizes in this Class are contributed by the Arab Horse Society.

Entry Fee: 10/- each entry.

Judge—C. W. LAIRD, 5, Hans Mansions, London, S.W.3.

CLASS.

19.—COLT, FILLY or GELDING, foaled in 1924, 1925 or 1926	..	15	12	8
			Fourth	£5.

SILVER MEDALS.

Offered by the Arab Horse Society.

(F) Best Colt in Class 19.

(G) Best Filly in Class 19.

POLO AND RIDING PONY.

Animals entered in Classes 20 and 21 must be entered in the National Pony Stud Book or registered in the approved Mare Register.

Entry Fee: 10/- each entry.

Judge—Lt.-Col. H. G. M. PLEYDELL-RAILSTON, Longthorns, Blandford, Dorset.

20.—MARE, not exceeding 15 hands, in foal or with foal at foot	..	..	10	5	3
21.—FILLY or GELDING, foaled in 1923, 1924 or 1925	..	..	10	5	3

SILVER MEDAL.

Offered by the National Pony Society.

(H) Best Exhibit in Class 20.

(Note.—This Medal will not be awarded unless there is a minimum of 4 entries in the Class).

SHETLAND PONY.

Entry Fee: 10/- each entry.

Judge—W. BROWN MOIR, Dunbae House, Stranraer, Wigtownshire.

22.—MARE, not exceeding 10.2 hands, in foal, or with foal at foot	..	..	10	5	3
23.—STALLION, not exceeding 10.2 hands, foaled before 1924	..	..	10	5	3

Offered by J. C. Duffus, Esq., of Penniwells, Elstree, Herts.

A Silver Cup for the best Exhibit in Classes 22 and 23.

DARTMOOR PONY.

£10 towards the prizes in these Classes are contributed by the Dartmoor Pony Society, and animals must be registered, or eligible for registration, in that Society's Stud Book. Unregistered animals must be registered within one month from the termination of the Show.

Entry Fee: 10/- each entry.

Judge—E. P. NORTHEY, Higher Bowden, Okehampton.

24.—MARE, any age, not exceeding 12.2 hands, in foal or with foal at foot	..	..	10	5	3
25.—STALLION, any age, not exceeding 12.3 hands	..	..	10	5	3

EXMOOR PONY.

Entry Fee : 10/- each entry.

£10 towards the prizes in these Classes are contributed by the Exmoor Pony Society, and animals must be registered if eligible for registration in the Exmoor Pony Society's Stud Book, must be shown in "natural condition," and not got up for Show. Prize-winning Animals, if not already registered, must be registered and branded within one month after the termination of the Show.

Judge—R. B. PHILLPOTTS, Rora House, Ilington, S. Devon.

Class.

	First Prize. £	Second Prize. £	Third Prize. £
26.—MARE, 2 years old and over on May 24, 1927, not exceeding 12.2 hands, with or without foal at foot, to be led	10	5	3
27.—STALLION, 2 years old and over on May 24, 1927, not exceeding 12.3 hands, to be led.. .. .	10	5	3

WELSH MOUNTAIN PONY.

Entry Fee : 10/- each entry.

Judge—T. B. LEWIS, Bronallt, Llanwryd Wells.

	First Prize. £	Second Prize. £	Third Prize. £
28.—MARE, not exceeding 12 hands, in foal or with foal at foot	10	5	3
29.—STALLION, not exceeding 12 hands, foaled in or before 1924	10	5	3

RIDING CLASSES.

Horses entered in other Classes can, if eligible, be also entered on payment of an additional fee of 5/- for Members and 10/- for Non-Members in the Riding Classes.

HUNTER.

(For Hunter Breeding Classes, see page 6).

Entry Fees : Classes 30 to 35, including Box : Members, 25/- ; Non-Members, 50/-. Entries close April 6, or, at Double Fees, April 13.

Animals entered in Classes 30 to 35 must be in the Yard before 8 a.m. on Tuesday, May 24, and must remain there till 1 p.m. on Thursday, May 26, when they must be removed from the yard, unless entered in other Classes to be judged on a later day.

Judge—Hon. ALEXANDER PARKER, Norton[]]Curlieu, Warwick.

30.—MARE or GELDING, foaled before 1924, that has not won a prize of £10 or over under saddle at any Show held previous to April 1, 1927	10	5	3
31.—MARE or GELDING, foaled in 1923	10	5	3
32.—MARE or GELDING, foaled before 1924 and not more than 8 years old, to carry not more than 12 stone 7 lbs. . .	20	10	3
33.—MARE or GELDING, foaled before 1924 and not more than 8 years old, to carry over 12 stone 7 lbs., and under 14 stone.. .. .	20	10	3
34.—MARE or GELDING, foaled before 1924 and not more than 8 years old, to carry 14 stone or over	20	10	3

Offered by the Bath Local Committee and confined to residents within a radius of 30 miles of the Guildhall, Bath.

35.—Mare or Gelding, to be owned, ridden and judged by a lady	10	5	3
	Fourth £2.		

First Prize.	Second Prize.	Third Prize.
£	£	£

HUNTER—Continued.

SPECIAL LOCAL PRIZE.

Offered by the Bath Local Committee.

- (I) Best exhibit in Class 30, the property of a resident within 30 miles of the Guildhall, Bath 5

MEDAL.

Offered by the Hunters' Improvement and National Light Horse Breeding Society under Condition No. 49.

- (J) A Silver Medal, or £1 (at the option of the winner), for the best Hunter Mare or Gelding of any age, exhibited in Classes 30 to 35 by a member of the Hunters' Improvement and National Light Horse Breeding Society, whose application for membership must be lodged within a month of the award.

Only Prize-winners in the Classes will be eligible for this Medal.

HACK AND RIDING PONY.

ENTRIES CLOSE.

With Box—April 6, or at double fees, April 13.

Without Box—At 12 noon on the day preceding the competition.

Entry Fees: With Box, Members, 25/-; Non-Members, 50/- each entry; Without Box: Members, 5/-; Non-Members, 10/-.

Judge—Mrs. HESELTINE, Gunville House, Sedghill, Shaftesbury, Dorset.

Horses entered in Classes 36 to 42 only must be in the Show Yard by 1 p.m. on the day on which they compete, and, with the consent of the Stewards, may leave the Yard as soon as the class has been judged.

CLASS.

- | | | | |
|--|----|---|---|
| 36.—(Novice Class): HACK MARE or GELDING, any height, that has not won a prize of over £5 in value as a Hack at any show held previous to April 1, 1927, to be ridden on the 2nd day of the Show | 10 | 5 | 2 |
| 37.—HACK MARE or GELDING, any height, to be ridden and be judged by a lady on the 3rd day of the Show | 10 | 5 | 2 |
| 38.—HACK MARE or GELDING, 15 hands and over, to be ridden on the 3rd day of the Show | 10 | 5 | 2 |
| 39.—HACK MARE or GELDING, under 15 hands, to be ridden on the 4th day of the Show | 10 | 5 | 2 |
| 40.—POLO PONY, not over 15 hands, 4 years old and over, to be ridden on the 4th day of the Show and to be judged by a Polo Pony Judge | 10 | 5 | 2 |

SILVER MEDAL.

Offered by the National Pony Society under Conditions No. 51.

- (K) Best exhibit in Class 40, subject to there being a minimum of 4 entries in the Class.

CHILDREN'S PONY.

- | | | | |
|--|---|---|---|
| 41.—PONY, not over 13 hands, suitable for and to be ridden by a child not over 12 years of age last birthday, on the 1st day of the Show | 5 | 4 | 2 |
| Fourth £1. | | | |
| 42.—PONY, not over 14 hands, suitable for and to be ridden by a child not over 14 years of age last birthday, on the 5th day of the Show | 5 | 4 | 2 |
| Fourth £1. | | | |

Whips will be presented to the best Boy and best Girl Riders in these Classes.

First Prize.	Second Prize.	Third Prize.
£	£	£

REMOUNT SELLING CLASSES.**Entry Fees: Members, 5/-; Non-Members, 10/- each entry.****Judge—Brig. Gen. C. C. LUCAS, M.C., Inspector of Remounts, War Office, London.**

Animals entered in Classes 43 and 44 must be in the Yard by 10 a.m. on Wednesday, May 25, and, with the consent of the Stewards, can leave after they have been judged and paraded.

CLASS.

- | | | | |
|--|---|---|---|
| 43.—MARE or GELDING, not under 5 years nor over 7 years old; not less than 15.3 nor over 16.1 hands, undocked, suitable for Cavalry Troop Horse. To be ridden | 8 | 4 | 3 |
| 44.—MARE or GELDING, not under 4 years nor over 6 years old; not less than 15.1½ nor over 15.3 hands, undocked, suitable for Artillery Gun Horse. To be ridden | 8 | 4 | 3 |

(The Inspector of Remounts will have the option of purchasing any Animal in Class 43 for £55; and in Class 44 for £50.)

DRIVING CLASSES.

Horses entered in other Classes can, if eligible, be also entered on payment of an additional fee of 5/- for Members and 10/- for Non-Members, in the Driving Classes.

Horses entered in the Driving Classes only must be in the Show Yard by 1 p.m. on the day on which they compete, and, with the consent of the Stewards, may leave the Yard as soon as the Class has been judged.

ENTRIES CLOSE.

With Box—April 6, or at double fees, April 13.

Without Box—At 12 noon on the day preceding the competition.

Entry Fees: With Box, Members, 25/-; Non-Members, 50/- each entry; Without Box: Members, 5/-; Non-Members, 10/-.

Judge—F. VIVIAN GOOCH, Homeleigh, Park Road, Leighton Buzzard.

First Prize.	Second Prize.	Third Prize.	Fourth Prize.
£	£	£	£

- | | | | | |
|---|----|---|---|---|
| 45.—(Novice Class). MARE or GELDING, not over 14 hands, that has not previously won a prize of over £5 in value in Single Harness at any show held previous to January 1, 1927, to be driven on the 2nd day of the Show | 10 | 5 | 3 | 2 |
| 46.—(Novice Class). MARE or GELDING, over 14 and not over 15 hands, that has not previously won a prize of over £5 in value in Single Harness at any Show held previous to January 1, 1927, to be driven on the 2nd day of the Show | 10 | 5 | 3 | 2 |
| 47.—(Novice Class). MARE or GELDING, over 15 hands that has not previously won a prize of over £5 in value in Single Harness at any Show held previous to January 1, 1927, to be driven on the 2nd day of the Show | 10 | 5 | 3 | 2 |

	First Prize. £	Second Prize. £	Third Prize. £	Fourth Prize. £
DRIVING CLASSES—Continued.				
CLASS. 48.—Pair of MARES or GELDINGS, any height, to be driven in Double Harness on the 3rd day of the Show	15	7	3	2
49.—TANDEMS, MARES OR GELDINGS, any height, to be driven on the 3rd day of the Show	15	7	3	2
50.—MARE or GELDING, not exceeding 14 hands, to be driven on the 4th day of the Show	15	7	3	2
51.—MARE or GELDING, over 14 and not exceeding 15 hands, to be driven on the 4th day of the Show	15	7	3	2
52.—MARE or GELDING, over 15 hands, to be driven on the 5th day of the Show	15	7	3	2

MEDAL (L.)

Offered by the Haskney Horse Society under Condition No. 50.

(L) A Silver Medal for the best Mare or Gelding exhibited in Single Harness in Classes 45 to 52, to be judged on the 5th day of the Show.

JUMPING.

(UNDER SHOW JUMPING ASSOCIATION RULES).

Horses can be entered in as many Jumping Classes as they are eligible for on payment of the entry fee for each Class, and can take Second or Third Prize in each class, but only one First Prize in Classes 53 to 56. In the event of an animal which has already won a First Prize in the aforesaid Classes being again placed First, the Animal next in point of merit will, if eligible, succeed to the First Prize, and the Stewards reserve the right to amend the Awards correspondingly, and, if necessary, to reduce proportionally the amounts paid to the other Prize Winners in the Class. The award to two or more exhibits of an equal First by the Judges, other than in the case of competitors agreeing to divide, will not debar such animals from taking a First Prize in a later Class.

Horses entered in the Jumping Classes only must be in the Show Yard by 1 p.m. on the day on which they compete, and, with the consent of the Stewards, may leave the Yard as soon as the Class has been judged. A covered shed will be provided for exhibits in these Classes.

ENTRIES CLOSE.

With Box—April 6, or at double fees, April 13.

Without Box—At 12 noon on the day preceding the competition.

Entry Fees: With Box, Members, 25/-; Non-Members, 50/- each entry; Without Box: Members, 5/-; Non-Members, 10/-.

The Society reserves the right to cancel the Classes for Jumping in the event of sufficient entries not being forthcoming. In such case any Entry Fee paid will be returned.

(For Regulations as to Jumping Classes see Condition 52).

Judge—Sir H. H. A. HOARE, Bart., Stourhead, Zeals, S.O., Wilts.

53.—MARE or GELDING, over 15 hands, that shall jump over the course in the best form on the 1st day of the Show	10	5	3	2
54.—MARE or GELDING, 15 hands and under, ditto, 1st day	10	5	3	2
55.—MARE or GELDING, over 15 hands, that shall jump over the course in the best form on the 2nd day of the Show	10	5	3	2
56.—MARE or GELDING, 15 hands and under, ditto, 2nd day	10	5	3	2

First Prize.	Second Prize.	Third Prize.	Fourth Prize.
£	£	£	£

JUMPING—Continued.

A Challenge Cup value £50, to be won three times before becoming the absolute property of the winner, is offered in **Class 57** by a Member of the Society, and the money Prizes by the Bath Local Committee. Competition is confined to Officers of the Southern Command. A replica of the Cup will be presented to the winner. Entry Fee, 5/-.

CLASS.

- | | | | | |
|--|---------------------|----|----|---|
| 57.—Mare or Gelding, the property of the Government and allotted to an Unit stationed in the Southern Command, or the property of an Officer of the Southern Command, that shall jump over the course in the best form on the 3rd day of the Show. | Challenge Cup and 5 | 5 | 3 | 2 |
| 58.—MARE or GELDING, any height, that shall jump over the course in the best form on the 3rd day of the Show | 10 | 5 | 3 | 2 |
| 59.—MARE or GELDING, any height, that shall jump highest on the 3rd day of the Show | 10 | 5 | 2 | |
| 60.—MARE or GELDING, over 15 hands, that shall jump over the course in the best form on the 4th day of the Show | 10 | 5 | 3 | 2 |
| 61.—MARE or GELDING, 15 hands and under, ditto, 4th day | 10 | 5 | 3 | 2 |
| 62.—MARE or GELDING, any height, that shall jump highest on the 5th day of the Show | 10 | 5 | 2 | |
| CHAMPION CLASS. | | | | |
| 63.—MARE or GELDING, any height, having won a Prize in Classes 53 to 62 that shall jump over the course in the best form on the 5th day of the Show | | 20 | 10 | 5 |
- (In this Class the whole of the Jumps will be raised at the discretion of the Stewards).
(In Classes 59 and 62, £1 will be added to the prizes offered, for every six inches over 5 feet cleared by the winning animals).

SPECIAL PRIZE.

Offered by the British Show Jumping Association to Members of that Association who have paid their Subscriptions for the current year.

- (M) A Silver Medal to the owner of the Horse making the least number of faults in Class 63, the Horse being a prize winner in the Class and not having previously won the Medal this year.

CATTLE.

Entry Fees: Members, 17/6; Non-Members, 35/- each entry.

DEVON.

Judge—R. COOK, Whitnage, Uplowman, Tiverton, Devon.

	First Prize.	Second Prize.	Third Prize.
	£	£	£
64.—COW OR HEIFER, in-Milk, calved in or before 1924 ..	10	5	2
65.—HEIFER, calved in 1925	10	5	2
66.—HEIFER, calved in 1926	10	5	2
67.—BULL, calved in or before 1924	10	5	2
68.—BULL, calved in 1925	10	5	2
69.—BULL, calved in 1926	10	5	2

CHAMPION PRIZES.

Offered by H.R.H. the Prince of Wales, K.G.

A Challenge Cup, value £30, for the best Bull exhibited in the Devon Classes, to be won three times in succession or four times altogether before becoming the property of the winner.

Offered by the Devon Cattle Breeders' Society.

Best Animal exhibited in the Devon Classes 10

First Prize £	Second Prize £	Third Prize. £
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SOUTH DEVON.

Judge—G. WILLS, Rydon, Ogwell, Newton Abbot.

£10 towards the Prizes in the South Devon Classes are contributed by the South Devon Herd Book Society.

CLASS.

70.—COW or HEIFER, in-Milk, calved in or before 1924	..	10	5	2
71.—HEIFER, calved in 1925 or 1926	.. .. .	10	5	2
72.—BULL, calved in or before 1925	.. .. .	10	5	2
73.—BULL, calved in 1926..	.. .. .	10	5	2

SHORTHORN.

Judge—J. PETER, Ham Villa, Berkeley, Glos.

74.—COW or HEIFER, in-Milk, calved in or before 1924	..	10	5	2
75.—HEIFER, calved in 1925	.. .. .	10	5	2
76.—HEIFER, calved in 1926	.. .. .	10	5	2
77.—BULL, calved in 1923 or 1924	.. .. .	10	5	2
78.—BULL, calved in 1925..	.. .. .	10	5	2
79.—BULL, calved in 1926..	.. .. .	10	5	2

CHAMPION PRIZE.

Offered by the Shorthorn Society.

Best Bull in the Shorthorn Classes entered in, or eligible for entry in Coates's Herd Book, with Silver Medal to the Breeder 10

DAIRY SHORTHORN.

Judge—G. BICKFORD, Somerford, Brewood, Staffs.

The First Prizes in Classes 80 and 81 (and a Silver Medal to the Breeder of the winners) are offered by the Shorthorn Society and the First Prize in Class 86 by the Dairy Shorthorn Association.

80.—PEDIGREE COW, in-Milk, calved in or before 1923, eligible for, and entered in Coates's Herd Book, or pedigree sent for such entry previous to the Show, and not having previously won a similar prize offered by the above-named Society in 1927, to be milked in the Ring before judging, under Conditions 59	..	10	5	2
81.—Ditto, calved in or after 1924, ditto, ditto	.. ..	10	5	2

Offered by the Bath Local Committee, and open only to residents within a radius of 30 miles of the Guildhall, Bath.

82.—Cow, calved previous to 1924, in-Milk and having produced a live calf	.. .. .	10	5	2
83.—PEDIGREE HEIFER, calved in 1925	.. .. .	10	5	2
84.—PEDIGREE HEIFER, calved in 1926	.. .. .	10	5	2
85.—PEDIGREE BULL, calved before 1926	.. .. .	10	5	2
86.—PEDIGREE BULL, calved in 1926, entered or pedigree accepted for entry in Coates's Herd Book and registered or accepted for registration in the Year Book of the Dairy Shorthorn Association. (An animal having taken one of these prizes is not eligible to compete again the same year except at the R.A.S.E. Show). The Prizes will not be awarded in this Class unless there are at least 5 entries	.. .. .	10	5	2

SPECIAL PRIZE.

Offered by the Dairy Shorthorn Association.

Best Bull in Class 86 qualified in accordance with conditions No. 60 10

HEREFORD.

Judge—C. H. TINSLEY, Twyford, Pembridge.

CLASS.

	First Prize. £	Second Prize. £	Third Prize. £
87.—COW or HEIFER, in-Milk, calved before Sept. 1, 1924	10	5	2
88.—HEIFER, calved on or between September 1, 1924, and August 31, 1925	10	5	2
89.—HEIFER, calved on or after September 1, 1925	10	5	2
90.—BULL, calved before September 1, 1924	10	5	2
91.—BULL, calved on or between September 1, 1924, and August 31, 1925	10	5	2
92.—BULL, calved on or after September 1, 1925	10	5	2

CHAMPION PRIZES.

Offered by the Hereford Herd Book Society.

Best registered Cow or Heifer in the Hereford Classes	10
Best registered Bull in ditto	10

SUSSEX.

Judge—J. R. BETTS, Greenhill Farm, Otham, Maidstone.

£10 towards the Prizes in the Sussex Classes and the Silver Medals are offered by the Sussex Herd Book Society.

93.—COW or HEIFER, in-Milk, calved in or before 1924	10	5	2
94.—HEIFER, calved in 1925	10	5	2
95.—HEIFER, calved in 1926	10	5	2
96.—BULL, calved in or before 1926	10	5	2

SILVER MEDALS.

Best Cow or Heifer in the Sussex Classes.

Best Bull in Ditto.

BRITISH FRIESIAN.

Judge—A. WEIGHTMAN, Middle Herrington Dairy Farm, near Sunderland.

£25 10s. towards the Prizes and the Silver Medals in the Friesian Classes are offered by the British Friesian Cattle Society, and animals entered must be registered in the B.F.C.S. Herd Book proper, those registered in Supplementary Section not being eligible.

97.—COW or HEIFER, any age, in-Milk	10	5	2
98.—HEIFER, not in Milk, calved in 1925	10	5	2
99.—HEIFER, calved in 1926	10	5	2
100.—BULL, calved in or before 1924	10	5	2
101.—BULL, calved in 1925	10	5	2
102.—BULL, calved in 1926	10	5	2

SILVER MEDALS.

Best Cow or Heifer in the British Friesian Classes.

Best Bull in ditto.

First Prize. £	Second Prize. £	Third Prize. £
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ABERDEEN-ANGUS.

Judge—A. P. McLAREN, The Warren, Croughton, Brackley.

£20 towards the Prizes in the Aberdeen-Angus Classes are contributed by the English Aberdeen-Angus Cattle Association.

CLASS.

103.—COW or HEIFER, in-Milk, calved before 1st December, 1924	10	5	2
104.—HEIFER, calved on or after 1st December, 1924	10	5	2
105.—HEIFER, calved on or after 1st December, 1925	10	5	2
106.—BULL, calved before 1st December, 1925	10	5	2
107.—BULL, calved on or after 1st December, 1925	10	5	2

CHAMPION PRIZES.

Offered by the Aberdeen-Angus Cattle Society.

A Silver Medal for the best Animal in the Aberdeen-Angus Classes.

Offered by the English Aberdeen-Angus Cattle Association.

A Silver Medal for the best Animal of opposite sex.

CHALLENGE CUP.

Offered by the English Aberdeen-Angus Cattle Association.

The Venning Cup for the Exhibitor gaining the most points in the Aberdeen-Angus Classes on the basis of 4 points for a first prize, 3 points for a second, 2 points for a third, 1 point for a Reserve, 2 points for a Championship, and 1 point for a Reserve Championship. The Cup to be won twice in succession or three times in all before becoming the property of the Exhibitor.

RED POLL.

Judge—R. B. ASTLEY, The Weir House, Alresford, Hants.

£20 towards the Prizes in the Red Poll Classes and the Silver Medals are contributed by the Red Poll Cattle Society.

108.—COW or HEIFER, in-Milk, calved before 1925	10	5	2
109.—HEIFER, calved in 1925	10	5	2
110.—HEIFER, calved in 1926	10	5	2
111.—BULL, calved in or before 1925	10	5	2
112.—BULL, calved in 1926	10	5	2

SILVER MEDALS.

Best Cow or Heifer in the Red Poll Classes.

Best Bull in ditto.

WELSH BLACK.

Judge—D. W. MORRIS, Penywern, Talybont, Cards.

£10 towards the Prizes in the Welsh Black Classes and the Bronze Medals are contributed by the Welsh Black Cattle Society, and £15 by Sir Geo. Meyrick, and animals must be registered or eligible for registration in the Welsh Black Cattle Herd Book.

113.—COW or HEIFER, in-Milk, calved on or before November 30th, 1924	10	5	2
114.—HEIFER, calved on or between December 1st, 1924, and November 30th, 1925	10	5	2
115.—HEIFER, calved on or after December 1st, 1925	10	5	2
116.—BULL, any age	10	5	2

BRONZE MEDALS.

Best Cow or Heifer in the Welsh Black Classes.

Best Bull in ditto.

First Prize. £	Second Prize. £	Third Prize. £
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AYRSHIRE.

Judge—A. STEELE, 162, Victoria Avenue, Southend-on-Sea.

£15 towards the Prizes in the Ayrshire Classes and the Gold Medal are contributed by the English Committee of the Ayrshire Cattle Herd Book Society, and animals entered must be registered or eligible for registration in the Society's Herd Book.

CLASS.

117.—Cow, in-Milk, calved before September 1, 1923	10	5	2
118.—Cow or HEIFER, in-Milk, calved on or after September 1, 1923	10	5	2
119.—HEIFER, calved on or after September 1, 1925	10	5	2

GOLD MEDAL.

Best animal in the Ayrshire Classes.

BLUE ALBION.

Judge—A. T. GREENSLADE, Little Walden Park, Saffron Walden.

£22 13s. 4d. towards the Prizes in the Blue Albion Classes are contributed by the Blue Albion Cattle Society, and only animals entered or accepted for entry in the Herd Book are eligible to compete. Animals entered or accepted for entry in the Special and Supplementary Registers are not eligible. The full Herd Book description of each animal entered must be given.

120.—Cow or HEIFER, in-Milk, calved before January 1st, 1925	10	5	2
121.—HEIFER, calved in 1925	10	5	2
122.—HEIFER, calved in 1926	10	5	2
123.—BULL, any age	10	5	2

JERSEY.

Judges—Cows and Heifers—J. A. PERREE, Oaklands, St. Saviours, Jersey.

Bulls—W. E. BUDGETT, Henbury, Bristol.

124.—Cow, in-Milk, calved before 1924	10	5	2
125.—Cow or HEIFER, in-Milk, calved in 1924	10	5	2
126.—HEIFER, in-Milk, calved in or since 1925	10	5	2
127.—BULL, calved before 1925	10	5	2
128.—BULL, calved in 1925	10	5	2
129.—BULL, calved in 1926	10	5	2

CHAMPION PRIZE.

Offered by the English Jersey Cattle Society.

For the Best Cow or Heifer, entered or eligible for entry in the English Jersey Herd Book, competing in the Jersey Classes

10

GUERNSEY.

Judge—O. J. Le PAGE, Le Briquet, St. Saviours, Guernsey.

£20 towards the Prizes in the Guernsey Classes are contributed by the English Guernsey Cattle Society.

130.—Cow, in-Milk, calved before 1924	10	5	2
131.—HEIFER, in-Milk, calved in 1924	10	5	2
132.—HEIFER, calved in 1925	10	5	2
133.—HEIFER, calved in 1926	10	5	2
134.—BULL, calved in 1923 or 1924	10	5	2
135.—BULL, calved in 1925	10	5	2
136.—BULL, calved in 1926	10	5	2

First Prize. £	Second Prize. £	Third Prize. £
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KERRY.

Judge—G. T. BARHAM, Sudbury Park, Wembley, Middlesex.

£15 of the Prizes in the Kerry Classes and the Challenge Cup are contributed by the British Kerry Cattle Society.

CLASS.

137.—COW or HEIFER, in-Milk, calved or on before August 31st, 1924	10	5	2
138.—HEIFER, not in-milk, calved between August 31st, 1924, and September 1st, 1925	10	5	2
139.—BULL, calved on or before August 31st, 1925	10	5	2
140.—BULL, calved between August 31st, 1925, and September 1st, 1926	10	5	2

CHALLENGE CUP.

The "Fitzgerald" Perpetual Silver Challenge Cup, value £10 10s. for the best animal exhibited in the Kerry Classes.

DEXTER.

Judge—E. P. PEYTON, Cottespoole, near Bromsgrove.

141.—COW or HEIFER, in-Milk, calved in or before 1924	10	5	2
142.—HEIFER, calved in 1925 or 1926	10	5	2
143.—BULL, calved before 1926	10	5	2

Offered by the Dexter Cattle Society.

144.—Bull, calved in 1926, whose sire and dam are entered in the English Dexter or Royal Dublin Society's Herd Book	10	3	2
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SPECIAL PRIZE.

Offered by the Dexter Cattle Society.

The Devonshire Challenge Cup, for the best Animal in the Dexter Classes bred by Exhibitor, and entered in or eligible for the Dexter Herd Book. The Cup to be won by the same Exhibitor with different animals three years in succession before becoming his absolute property.

The Certificate of Award of the Dexter Cattle Society will be given to the owner of the winning animal on each occasion the Cup is competed for.

Animals entered in the Breed Classes can, if eligible, be entered also, on payment of an additional fee of 10/- for Members and 20/- for Non-Members, in the Milk and Butter Test Classes.

MILK TEST.

(See Regulation 62).

Judge—A. F. SOMERVILLE, Dinder House, Wells, Somerset.

145.—Cow, in-Milk, of any breed or cross, under 950lbs. live weight, yielding the largest quantity of milk, of normal character, containing at each time of milking not less than 3 per cent. fat, the period of lactation being taken into consideration	10	5	2
146.—Cow, in-Milk, of any breed or cross, 950lbs. live weight or over, ditto, ditto	10	5	2

First Prize. £	Second Prize. £	Third Prize. £
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MILK TEST—Continued.

SILVER CHALLENGE CUPS.

Offered by the Dexter Cattle Society.

The "Hare" Challenge Cup, for the Dexter Cow or Heifer obtaining the greatest number of points in the Milk Test Classes. The Cup to become the property of an Exhibitor winning it 3 years in succession or 5 years in all. The Certificate of Award of the Dexter Cattle Society will be given to the owner of the winning animal.

Offered by the British Kerry Cattle Society.

The Valencía Perpetual Silver Challenge Cup, value £15 15s., for the Kerry Cow gaining the highest number of points in the Milk Test Classes.

SPECIAL PRIZES.

Offered by the Royal Jersey Agricultural Society through the English Jersey Cattle Society, for the Jersey Cow obtaining the greatest number of points in the Milk Test Classes

£10 10s.

Offered by the British Friesian Cattle Society to the owner of the Cow awarded the greatest number of points in the Milk Test Classes, provided that such Cow is a British Friesian

£50

BUTTER TEST.

(See Regulation 62).

Judge—A. F. SOMERVILLE, Dinder House, Wells, Somerset.

CLASS.

147.—Cow, of any breed or cross, under 950lbs. live weight, obtaining the greatest number of points by the practical test of the separator and churn

5 3 2

148.—Cow, of any breed or cross, 950lbs. live weight and over, ditto, ditto

5 3 2

SPECIAL PRIZES.

Offered by the respective Breed Societies.

For the South Devon Cow obtaining the best results

£5 5s.

For the three Jersey Cows obtaining the best results and not less than 42 points

Gold Medal or £10 Silver and Bronze Medals.

(Certificates of Merit will also be awarded to Jersey Cows, 4 years old and under, obtaining 30 points, and Cows over 4 years old, obtaining 35 points. In the event of Cows obtaining the same number of points, the Prize to be awarded to the Cow that has been the longest time in milk.

For the Guernsey Cow obtaining the best results

£5

MILK RECORDED.

The Prizes in this Class are offered by the Bath Local Committee, and are open only to residents within a radius of 30 miles of the Guildhall, Bath. Animal entered in this Class only must be in the Yard by 9 a.m. on Wednesday, May 25th, and can be removed after 7 p.m. that day.

Judge—G. BICKFORD, Somerford, Brewood, Staffs.

149.—Cow, of any breed or Cross, that has in her last lactation period yielded 8,000lbs. of Milk and has calved, or is due to calve again, within 13 months of her last calving

10 5 2

In this Class Form No. A 56/T L, signed by Owner, Recorder and Secretary of Milk Recording Society, must be furnished with the entry.

First Prize.	Second Prize.	Third Prize.
£	£	£

SHEEP.

Entry Fees: Members, 15/-; Non-Members, 30/- each entry.

DEVON LONGWOOLLED.

Judge—W. G. BRENT, Warrens Park, Coads Green, Llanccoston.

£10 towards the Prizes in these Classes are contributed by the Devon Longwoolled Sheep Breeders' Society.

CLASS.

150.—Shearling RAM	10	5	2
151.—Pair of RAM LAMBS, dropped in 1927	10	5	2
152.—Pair of Shearling EWES	10	5	2

KENT OR ROMNEY MARSH.

Judge—H. RIGDEN, Etchinghill, Shorncliffe, Kent.

£17 towards the Prizes in these Classes are offered by the Kent or Romney Marsh Sheep Breeders' Association.

153.—Shearling RAM	10	5	2
154.—Pair of RAM LAMBS, dropped in 1927	10	5	2
155.—Pair of Shearling EWES	10	5	2

SOUTHDOWN.

Judge—A. C. HARRIS, The Warren, Summersdale, Chichester.

£17 towards the Prizes in these Classes are offered by the Southdown Sheep Society.

156.—Shearling RAM	10	5	2
157.—Pair of RAM LAMBS, dropped in 1927	10	5	2
158.—Pair of Shearling EWES	10	5	2

SPECIAL PRIZE.

Offered by the Southdown Sheep Society, under Condition 65, subject to there being at least three competitors.

Silver Medal or £1 for the best Ram or Ram Lamb in the Southdown Classes.

Ditto, for the best pen of Ewes.

HAMPSHIRE DOWN.

Judge—B. J. WATERS, Bishopstone, Salisbury.

£34 towards the Prizes in these Classes and the Champion Prize are offered by the Hampshire Down Sheep Breeders' Association.

159.—Shearling RAM	10	5	2
160.—RAM LAMB, dropped in 1927	10	5	2
161.—Pair of RAM LAMBS, dropped in 1927	10	5	2
162.—Pair of Shearling EWES	10	5	2
163.—Pen of 3 Ewe Lambs, dropped in 1927	10	5	2

CHAMPION PRIZE.

Best Ram, Ram Lamb, Pair or Pen in the Hampshire Down Classes

5

OXFORD DOWN.**Judge—R. G. ADAMS, Fernham Manor, Faringdon.**

CLASS.

	First Prize. £	Second Prize. £	Third Prize. £
164.—Shearling RAM	10	5	2
165.—Pair of RAM LAMBS, dropped in 1927	10	5	2
166.—Shearling EWE	10	5	2

Offered by the Oxford Down Sheep Breeders' Association, and the Prizes will be withheld until the Animals awarded the Prizes are registered in the Flock Book.

167.—Pen of two Ewe Lambs, dropped in 1927	6	3	1
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DORSET HORN.**Judge—W. J. CHICK, Stratton, Dorchester.**

The Animals entered in Classes 168 and 170 must have been shorn bare in the year of the Show.

£20 towards the Prizes in these Classes are contributed by the Dorset Horn Sheep Breeders' Association.

168.—Shearling RAM	10	5	2
169.—Pair of RAM LAMBS, dropped after November 1st, 1926	10	5	2
170.—Pair of Shearling EWES	10	5	2
171.—Pen of 3 Ewe Lambs, dropped after November 1st, 1926	10	5	2

DORSET DOWN.**Judge—H. R. WATSON, Milborne Wick, Sherborne.**

£15 towards the Prizes in these Classes are contributed by the Dorset Down Sheep Breeders' Association.

172.—Shearling RAM	10	5	2
173.—Pair of RAM LAMBS, dropped in 1927	10	5	2
174.—Pair of Shearling EWES	10	5	2

EXMOOR HORN.**Judge—T. PRING, Champson, Molland, Barnstaple.**

£17 towards the Prizes in these Classes are contributed by the Exmoor Horn Sheep Breeders' Society.

175.—RAM, any age	10	5	2
176.—Pair of RAM LAMBS, dropped in 1927	10	5	2
177.—Pair of Shearling EWES	10	5	2

SUFFOLK.**Judge—S. R. SHERWOOD, Playford, Ipswich.**

£25 towards the Prizes in these Classes are contributed by the Suffolk Sheep Society.

178.—Shearling RAM	10	5	2
179.—Pair of RAM LAMBS, dropped in 1927	10	5	2
180.—Pair of Shearling EWES	10	5	2
181.—Pen of 3 Ewe Lambs, dropped in 1927	10	5	2

CHAMPION PRIZE.

Offered by Sir F. Hervey Bathurst, Bart., D.S.O.

A Silver Cup for the best Ram, Pair or Pen, in the Suffolk Classes The Cup to be won three years in succession before becoming the absolute property of the winner.

RYELAND.**Judge—R. R. GRIBBLE, Gabriels Manor, Edenbridge, Kent.****£15 of the Prizes in these Classes are contributed by the Ryeland Sheep Society.**

	First Prize. £	Second Prize. £	Third Prize. £
182.—Shearling RAM	10	5	2
183.—Pair of RAM LAMBS, dropped in 1927	10	5	2
184.—Pair of Shearling EWES	10	5	2

KERRY HILL.**Judge—J. W. OWENS, Woodhouse, Shobdon, Herefordshire.****£12 towards the Prizes in these Classes are contributed by the Kerry Hill (Wales) Flock Book Society, and animals must be shown uncoloured. The names and Flock Book number of Rams must be given.**

185.—RAM, 2 Shear and upwards	10	5	2
186.—Shearling RAM	10	5	2
187.—Pair of Shearling EWES	10	5	2

CHAMPION PRIZE.**Offered by H.R.H. The Prince of Wales, K.G.****A Challenge Cup, value £20, for the best animal exhibited in Class 186 or 187, to be won three times in succession or four times altogether before becoming the property of the Exhibitor.****GOATS.****(For Regulations see Entry Forms).****Entry Fees: Members, 7/6; Non-Members, 10/- each entry.****Judge—H. S. HOLMES PEGLER, Coombe Bury, Claygate, Esher, Surrey.****£15 towards the Prizes in these Classes are contributed through the British Goat Society.**

	£	s.	£	s.	s.	d.
188.—FEMALE GOAT, in-Milk, any age, British Alpine, Toggenburg or British Toggenburg	2	10	1	10	15	0
189.—FEMALE GOAT, in-milk, any age, Saanen or British Saanen	2	10	1	10	15	0
190.—FEMALE GOAT, in-milk, any age, Any other Variety	2	10	1	10	15	0
191.—GOATLING, British Alpine, Toggenburg or British Toggenburg, over one but not exceeding two years	2	10	1	10	15	0
192.—GOATLING, any other variety, over one but not exceeding two years	2	10	1	10	15	0
193.—FEMALE KID, any variety, not exceeding one year	2	10	1	10	15	0
194.—MILKING COMPETITION for QUALITY (Butter Fat only), quantity and time (two milkings)	2	10	1	10	15	0
195.—MILKING COMPETITION for QUANTITY and TIME ONLY (three milkings)	2	10	1	10	15	0

Special Prizes offered by the British Goat Society.**A Challenge Certificate for the Best Female Goat over two years that has borne a kid.****A Challenge Certificate for the Best Dual Purpose Goat over two years that has borne a kid.****A Bronze Medal for the Best Female Exhibit.****The Prizes awarded at this Show will also be included in the awards for the British Goat Society's "Breeder's" Perpetual Challenge Cup and "Stud Goat" Challenge Cup.****Note.—To compete for the Dual Purpose Challenge Certificate, a Goat must be exhibited in one of the first three Inspection Classes, and also in the Quality Milking Competition.**

First Prize.	Second Prize.	Third Prize.
£	£	£

PIGS.

Entry Fees: Members, 15/-; Non-Members, 30/- each entry.

BERKSHIRE.

Judge—R. W. CARSON, Lea Hall, Hatfield Heath, Harlow, Essex.

£9 towards the Prizes in these Classes and the Challenge Cups are contributed by the National Pig Breeders' Association, and ages are calculated to May 24, 1927.

CLASS.

196.—BOAR, exceeding 18 months old	10	5	2
197.—BOAR, not exceeding 18 months old	7	4	2
198.—BREEDING SOW, exceeding 18 months old	10	5	2
199.—BREEDING SOW, not exceeding 18 months old	7	4	2

CHALLENGE CUPS (Value £10 10s. each).

To be won twice in succession or three times in all before becoming the property of the Exhibitor.

Best Boar in the Berkshire Classes.

Best Sow in ditto.

A Silver Medal will be awarded to the Breeder of the prize-winning Animals.

LARGE BLACK.

Judge—J. WARNE, Tregonhayne, Tregonning, Grampound Road.

£20 towards the Prizes in these Classes and the Silver Medals are contributed by the Large Black Pig Society.

200.—BOAR, farrowed before May 1, 1926	10	5	2
201.—BOAR, not exceeding 12 months old on May 1, 1927	7	4	2
202.—BOAR, farrowed in 1927	7	4	2
203.—BREEDING SOW, farrowed before May 1, 1926	10	5	2
204.—BREEDING SOW, not exceeding 12 months old on May 1, 1927	10	5	2

SILVER MEDALS.

Best Boar in the Large Black Classes.

Best Sow in ditto.

LARGE WHITE.

Judge—D. W. Gunn, Risethorpe, Compton Road, Sherwood, Notts.

£15 towards the Prizes in these Classes and the Champion Prize are offered by the National Pig Breeders' Association.

205.—BOAR, farrowed before July 1, 1926	10	5	2
206.—BOAR, farrowed on or after July 1, 1926	7	4	2
207.—BREEDING SOW, farrowed before 1926	10	5	2
208.—BREEDING SOW, farrowed in 1926	7	4	2
209.—Pair of BREEDING SOWS, farrowed in 1927	7	4	2

CHAMPION PRIZE.

A GOLD MEDAL for the best Animal in the Large White Classes, subject to there being not less than 30 entries, or a **SILVER MEDAL** if not less than 15.

First Prize £	Second Prize. £	Third Prize. £
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MIDDLE WHITE.

Judge—L. C. PAGET, Middlethorpe Hall, York.

£15 towards the Prizes in these Classes and the Champion Prizes are offered by the National Pig Breeders' Association.

CLASS.

210.—BOAR, farrowed before July 1, 1926	10	5	2
211.—BOAR, farrowed on or after July 1, 1926	7	4	2
212.—BREEDING SOW, farrowed before 1926	10	5	2
213.—BREEDING SOW, farrowed in 1926	7	4	2
214.—Pair of BREEDING SOWS, farrowed in 1927	7	4	2

CHAMPION PRIZES.

GOLD MEDALS for the best Boar and the best Sow in the Middle White Classes, subject to there being not less than 20 entries for Boars or 30 entries for Sows, or **SILVER MEDALS** if not less than 15.

TAMWORTH.

Judge—F. WEBB, Billington Estate Office, Leighton Buzzard.

£10 towards the Prizes in these Classes and the Champion Prize are contributed by the National Pig Breeders' Association.

215.—BOAR, any age	10	5	2
216.—BREEDING SOW, farrowed in or before 1927	10	5	2

CHAMPION PRIZE.

A SILVER MEDAL for the best Animal in the Tamworth Classes, subject to there being not less than 15 entries, or a **BRONZE MEDAL** if not less than 10.

GLOUCESTERSHIRE OLD SPOTS.

Judge—G. CROCKER, Eastacott Farm, Umberleigh, N. Devon.

£20 towards the Prizes in these Classes are contributed by the Gloucestershire Old Spots Pig Society.

217.—BOAR, farrowed before July 1, 1926	10	5	2
218.—BOAR, farrowed on or after July 1, 1926	7	4	2
219.—BREEDING SOW, farrowed before 1926	10	5	2
220.—BREEDING SOW, farrowed in 1926	10	5	2
221.—Pair of BREEDING SOWS, farrowed in 1927	7	4	2

CHAMPION PRIZES.

Offered through the Gloucestershire Old Spots Pig Society.

The Sir George Watson Challenge Cup, value £21, for the best Animal in the Gloucestershire Old Spots Classes. (The Cup to be won three times by the same Exhibitor with different Animals before becoming his own property).

The Turnbull Cup, value £14 14s., for the best Boar in Class 217 or 218. (The Cup to be won twice by the same exhibitor with different animals before becoming his own property).

Offered by Messrs. Bennett and Howard.

The Sir John Anderson Cup for the best Sow in the Gloucestershire Old Spots Classes. (The Cup to be won three times by the same Exhibitor before becoming his own property).

First Prize. £	Second Prize. £	Third Prize. £
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WESSEX SADDLEBACK.**Judge—E. E. RALLS, Wade Park Farm, Totton, Hants.**

£15 towards the Prizes in these Classes and the Gold Medal are offered by the Wessex Saddleback Pig Society, and all pigs exhibited must be entered or eligible for entry in that Society's Herd Book.

CLASS.

222.—BOAR, farrowed before July 1, 1926	10	5	2
223.—BOAR, farrowed on or after July 1, 1926	7	4	2
224.—BREEDING SOW, farrowed before 1926	10	5	2
225.—BREEDING SOW, farrowed in 1926	7	4	2
226.—Pair of BREEDING SOWS, farrowed in 1927	7	4	2

GOLD MEDAL.

Value £5 5s., for the best Pig exhibited in the Wessex Saddleback Classes, and a Silver Medal to the Breeder who is not the exhibitor of the Animal winning the Gold Medal.

NATIONAL LONG WHITE LOP-EARED.**Judge—W. H. NEAL, Yealmpston, Plympton, Devon.**

£20 towards the Prizes in these Classes are contributed by the National Long White Lop-Eared Pig Society.

227.—BOAR, farrowed before July 1, 1926	10	5	2
228.—BOAR, farrowed on or after July 1, 1926	7	4	2
229.—BREEDING SOW, farrowed before 1926	10	5	2
230.—BREEDING SOW, farrowed in 1926	7	4	2
231.—Pair of BREEDING SOWS, farrowed in 1927	7	4	2

BACON FIGS.**Judge—J. M. HARRIS, Chilvester Hall, Calne, Wilts.**

232.—Pair of Pigs of any breed or first cross (the cross to be stated) between 9 score 10lbs. and 11 score 10lbs. live weight each, best suitable for the Wiltshire cut of Bacon	7	4	2
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All Pigs in this Class will be purchased at the current market price by Messrs. Bowyers (Wiltshire Bacon), Limited, Trowbridge, who will remove them from the Show, kill, and cure the carcasses. Additional prizes will then be awarded for the best Bacon after curing

3	2	1
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Offered by the Bath Local Committee.

Open only to residents within a radius of 30 miles of the Guildhall, Bath.

233.—Pair of Pigs of any breed or first cross (the cross to be stated), most suitable for Wiltshire Bacon	7	4	2
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All Pigs in this Class will be purchased at the Market price by Messrs. Bowyers (Wiltshire Bacon), Ltd.

SPECIAL PRIZE.

Offered by Messrs. Bowyers (Wiltshire Bacon), Ltd., Trowbridge.

A Silver Cup, value £10 10s., for the Best Exhibit, either pure bred Large White or Cross Bred by a Large White Boar in Class 233.

PRODUCE.

CIDER.

(Open to Growers and Makers).

Entry Fees: Members, 3/6; Non-Members, 6/- each entry.

Judge—E. P. WEST, University Research Station, Long Ashton.

Cider entered in the Novice Class can also be entered in the Open Class for which it is eligible.

CLASS.

	First Prize. £	Second Prize. £	Third Prize. £
234.—NOVICE CLASS. Cask of not less than 9 and not more than 30 gallons of CIDER made in 1926 by an Exhibitor who has not previously taken a first prize in any public exhibition.. ..	5	3	2
235.—Cask of not less than 9 and not more than 30 gallons of CIDER, made in 1926, of a specific gravity not exceeding 1.015 at 60 deg. Fahr.	5	3	2
236.—12 Quart Bottles of CIDER, made in 1926, ditto	5	3	2
237.—Cask of not less than 9 and not more than 30 gallons of CIDER, made in 1926	5	3	2
238.—12 Quart Bottles of CIDER, made in 1926	5	3	2
239.—12 Quart Bottles of CIDER, made in any year previous to 1926	5	3	2

CHEESE.

Entry Fees: Class 240, Members, 10/-; Non-Members, 20/-. Classes 241 to 245, Members, 7/6; Non-Members, 15/-. Classes 246 and 247, 3/6.

Judges—A. TODD, British Dairy Institute, Reading (Classes 240 to 244 and 246.)

J. PARFITT, Cambrian Road, Newport, Mon. (Classes 245 and 247.)

(These Classes are not open to Professional Teachers.)

	£	s.	£	s.	£	s.
240.—Three Cheddar CHEESES (not less than 56lbs. each) made in 1926	15	0	10	0	5	0
241.—Three Cheddar CHEESES (not over 56lbs. each), made in 1926	10	0	7	0	4	0
242.—Four Loaf or other Truckle CHEESES, made in 1926	5	0	3	0	2	0
243.—Three Double Gloucester CHEESES, made in 1926	6	0	4	0	2	0
244.—Three Single Ditto, ditto	5	0	3	0	2	0
245.—Three Caerphilly CHEESES, made in 1927	5	0	3	0	2	0

The Prizes in Classes 246 to 248 are offered by the Somerset County Agricultural Committee.

	First Prize. £ s.	Second Prize. £ s.	Third Prize. £ s.	Fourth Prize. £ s.
246.—Three Cheddar Cheeses, made by Persons who have received instruction provided by the Somerset County Council	6	0	3	0
247.—Three Caerphilly Cheeses, made by Persons who have received instruction in Cheese Making provided by the Somerset County Council	5	0	3	0

CREAM CHEESE, BUTTER AND CREAM.

(These Classes are not open to Professional Teachers.)

Entry Fees: Members, 3/6; Non-Members, 6/-.

Judge—Mrs. LUKE, 9, St. James's Place, The Hoe, Plymouth.

CLASS.

	First Prize.	Second Prize.	Third Prize.	Fourth Prize.
	£ s	£ s.	£ s.	£ s.
248.—Three Cream or other Soft CHEESES	3 0	2 0	1 0	0 10
249.—2lbs. of Fresh (or very slightly salted) BUTTER ..	4 0	3 0	2 0	1 0
250.—2lbs. of BUTTER, in the making of which no salt has been used, to be judged on the last day of the Show	4 0	3 0	2 0	1 0
251.—12lbs. of Keeping BUTTER, in a jar or crock, to be delivered to the Secretary 4 weeks before the Show	5 0	4 0	3 0	2 0
252.—Four half-pounds of SCALDED CREAM	3 0	2 0	1 0	

COMPETITIONS.

BUTTER-MAKING.

(No Winner of a first prize given by this Society for Butter-making during the last 3 years is eligible to compete in Classes 253 to 255).

Entry Fees: Members, 3/6; Non-Members, 6/-.

Judges—

Classes 253 to 256—Mrs. STEVENS, Grove Farm, Emmer Green, Reading.

Class 257—A. TODD, British Dairy Institute, Reading.

(For Conditions and Regulations see Entry Form).

253.—NOVICE CLASS. For Competitors who have not hitherto won a prize for Butter-making at the London Dairy Show or the Shows of the Royal Agricultural or Bath and West Society. On the 1st day of the Show ..	4 0	3 0	1 10	1 0
254.—For Men and Women, bona fide workers on a farm. On the 2nd day of the Show ..	4 0	3 0	1 10	1 0
255.—For Students who have been through a course of instruction in Butter-making at any County Council School, and who have not previously won a first or second prize at one of the Society's Shows. On the 3rd day of the Show	4 0	3 0	1 10	1 0
256.—For Men and Women. On the 4th day of the Show	4 0	3 0	1 10	1 0
257.—For Winners of First and Second Prizes in the Butter-making Classes 253 to 256, or at any previous meeting of the Society. On the 5th day of the Show.				
1st Prize, Gold Medal.				
2nd „ Silver Medal.				
3rd „ Bronze Medal.				

First Prize.	Second Prize.	Third Prize.	Fourth Prize.
£ s.	£ s.	£ s.	£ s.

MILKING.

Entry Fees: 2/6 each entry.

Judge—Miss M. C. TAYLOR, Somerset Farm Institute, Cannington, Bridgwater.

CLASS.

258.—For Men and Women, without restrictions as to age 3 0 2 0 1 0

Offered by the Somerset County Education Committee and Mr. A. F. Somerville.

259.—For Boys attending Elementary Schools who have received instruction under the Somerset County Council 1 10 1 0 0 10

260.—For Girls ditto 1 10 1 0 0 10

SHOEING.

Entry Fees: Members, 3/6; Non-Members, 6/- each entry.

Judge—W. HILL, F.W.C.F., 20, Polsloe Road, Exeter.

261.—For CART HORSE SHOEING by Smiths. On the 3rd day of the Show 4 0 3 0 2 0 1 0

262.—For HUNTER SHOEING by Smiths. On the 4th day of the Show 4 0 3 0 2 0 1 0

263.—For SHOEMAKING or TURNING by Smiths. On the 5th day of the Show 4 0 3 0 2 0 1 0

SPECIAL PRIZES.

"The Capewell Challenge Cup," offered by the Capewell Horse Nail Co. (Ltd.) for the best Competitor in Class 261. The Cup to be won 3 years in succession or 4 times in all before becoming the absolute property of the winner.

Challenge Cup, offered by Messrs. William Martin, Sons and Co., "Dundycuan" Iron and Steel Works, Coatbridge, per Godwin, Warren and Co., Ltd., Bristol, for the Best Competitor in Class 262.

An All-Bright "Godwin" Shoe Turning Hammer, by Messrs. Godwin, Warren and Co., for the Best Competitor in Class 263.

SPECIAL LOCAL PRIZES.

Offered by the Somerset County Agricultural Committee.

Best Competitors in Class 261, resident in Somerset	..	..	3 0	2 0
Best Competitors in Class 262, resident in Somerset	..	..	3 0	2 0
Best Competitors in Class 263, resident in Somerset	..	..	3 0	2 0

POULTRY.

(Under Poultry Club Rules).

Entry Fees: Class 1, Members, 3/-; Non-Members, 5/-;
Classes 2 to 73, Members, 2/-; Non-Members, 3/-;
each entry.

Judges—G. DOBLE, Royal Ashton Hotel, Taunton (Classes 1 to 25, 46 to 53 and 56 to 59; and C. WATSON, Oxhey, Watford (Classes 1, 26 to 45, 54 to 55 and 60 to 73).

The Birds in Classes 1 to 45 and 56 to 67 must have been hatched previous to January 1st, 1927.

CLASS.

	First Prize. £ s.	Second Prize. £ s.	Third Prize. £ s.
1.—Any Two Pure Breeds, best mated to cross for producing Table Poultry.—Cock and 3 Hens, bred in 1925 or 1926, the property of one Exhibitor ..	3 0	2 0	1 0
2.—COCHIN OR BRAHMA—Cock or Hen	1 10	1 0	0 10
3.—PLYMOUTH ROCK (Barred)—Cock	1 10	1 0	0 10
4.—Ditto—Hen	1 10	1 0	0 10
5.—Ditto (Any other variety)—Cock	1 10	1 0	0 10
6.—Ditto—Hen	1 10	1 0	0 10
7.—ORPINGTON—(Any variety)—Cock	1 10	1 0	0 10
8.—Ditto—Hen	1 10	1 0	0 10
9.—BARNVELDER—Cock	1 10	1 0	0 10
10.—Ditto—Hen	1 10	1 0	0 10
11.—RHODE ISLAND RED—Cock	1 10	1 0	0 10
12.—Ditto—Hen	1 10	1 0	0 10
13.—SUSSEX (Light)—Cock	1 10	1 0	0 10
14.—Ditto—Hen	1 10	1 0	0 10
15.—SUSSEX (Speckled)—Cock	1 10	1 0	0 10
16.—Ditto—Hen	1 10	1 0	0 10
17.—SUSSEX (Any other variety)—Cock	1 10	1 0	0 10
18.—Ditto—Hen	1 10	1 0	0 10
19.—DORKING (Any variety)—Cock	1 10	1 0	0 10
20.—Ditto—Hen	1 10	1 0	0 10
21.—LANGSHAN—Cock or Hen	1 10	1 0	0 10
22.—WYANDOTTE (White)—Cock	1 10	1 0	0 10
23.—Ditto—Hen	1 10	1 0	0 10
24.—Ditto (Any other variety)—Cock	1 10	1 0	0 10
25.—Ditto—Hen	1 10	1 0	0 10
26.—INDIAN GAME—Cock	1 10	1 0	0 10
27.—Ditto—Hen	1 10	1 0	0 10
28.—FRENCH (including Faverolles)—Cock	1 10	1 0	0 10
29.—Ditto—Hen	1 10	1 0	0 10
30.—MINORCA—Cock	1 10	1 0	0 10
31.—Ditto—Hen	1 10	1 0	0 10
32.—LEGHORN (White)—Cock	1 10	1 0	0 10
33.—Ditto—Hen	1 10	1 0	0 10
34.—Ditto (Any other colour)—Cock	1 10	1 0	0 10
35.—Ditto—Hen	1 10	1 0	0 10
36.—HAMBURG (Any variety)—Cock or Hen	1 10	1 0	0 10
37.—CAMPINE—Cock or Hen	1 10	1 0	0 10
38.—OLD ENGLISH GAME (Black Red, Wheaton or Part-ridge)—Cock	1 10	1 0	0 10
39.—Ditto—Hen	1 10	1 0	0 10
40.—Ditto (Any other colour)—Cock	1 10	1 0	0 10
41.—Ditto—Hen	1 10	1 0	0 10
42.—ANCONA—Cock	1 10	1 0	0 10
43.—Ditto—Hen	1 10	1 0	0 10
44.—ANY OTHER DISTINCT BREED not previously mentioned (excluding Bantams)—Cock	1 10	1 0	0 10
45.—Ditto—Hen	1 10	1 0	0 10

CLASS.	SELLING CLASSES.	First Prize. £ s.	Second Prize. £ s.	Third Prize. £ s.
46.—ANY	DISTINCT BREED—Cock or Cockerel (Price not to exceed £1 ls.)	1 10	1 0	0 10
47.—ANY	DISTINCT BREED—Hen or Pullet (Price not to exceed £1 ls.)	1 10	1 0	0 10

CHICKENS OF 1927.

48.—SUSSEX (Any variety)	1 10	1 0	0 10
49.—Ditto—Pullet	1 10	1 0	0 10
50.—WYANDOTTE (Any variety)—Cockerel	1 10	1 0	0 10
51.—Ditto—Pullet	1 10	1 0	0 10
52.—Any other Variety, Soft Feather—Cockerel	1 10	1 0	0 10
53.—Ditto—Pullet	1 10	1 0	0 10
54.—Any other Variety, Hard Feather—Cockerel	1 10	1 0	0 10
55.—Ditto—Pullet	1 10	1 0	0 10

UTILITY POULTRY.

56.—WYANDOTTE—Cock	1 10	1 0	0 10
57.—Ditto—Hen	1 10	1 0	0 10
58.—SUSSEX—Cock	1 10	1 0	0 10
59.—Ditto—Hen	1 10	1 0	0 10
60.—LEGHORN—Cock	1 10	1 0	0 10
61.—Ditto—Hen	1 10	1 0	0 10
62.—RHODE ISLAND RED—Cock	1 10	1 0	0 10
63.—Ditto—Hen	1 10	1 0	0 10
64.—Any other Variety, Light Breed—Cock	1 10	1 0	0 10
65.—Ditto—Hen	1 10	1 0	0 10
66.—Any other Variety, Heavy Breed—Cock	1 10	1 0	0 10
67.—Ditto—Hen	1 10	1 0	0 10

SPECIAL PRIZE.

Best Exhibit in any of the Poultry Classes by a resident within a radius of 30 miles of the Guildhall, Bath .. 3

CHAMPION PRIZES.

Best Cock or Cockerel exhibited in any of the Classes .. 3
Best Hen or Pullet exhibited in any of the Classes .. 3

DUCKS, GEESE AND TURKEYS.

68.—DRAKE or DUCK (Aylesbury)	1 10	1 0	0 10
69.—" (Rouen)	1 10	1 0	0 10
70.—" (Indian Runner)	1 10	1 0	0 10
71.—" (Any other variety)	1 10	1 0	0 10
72.—GANDER or GOOSE	1 10	1 0	0 10
73.—TURKEY—Cock or Hen	1 10	1 0	0 10

PIGEONS.

(Under N.P.A. Show Rules).

Entry Fees: Members, 1/6; Non-Members, 2/- each entry.

Judge—P. E. HARROWER, 2, Sandland Street, Holborn, London, W.C.1.

	s.	s.	s.
74.—POUTER, PIGMY or CROPPER—Cock or Hen	10	8	6
75.—DRAGON—Cock	10	8	6
76.—Ditto—Hen	10	8	6
77.—MAGPIE (Black)—Cock or Hen	10	8	6

			First Prize. s.	Second Prize. s.	Third Prize. s.
PIGEONS—Continued.					
CLASS.					
78.—MAGPIE (Any other colour)—Cock or Hen	..	..	10	8	6
79.—TUMBLER (Long-faced)—Cock or Hen	..	..	10	8	6
80.—JACOBIN (Black)—Cock or Hen	..	..	10	8	6
81.—Ditto (Any other colour)—Cock or Hen	..	..	10	8	6
82.—ORIENTAL (Any variety)—Cock or Hen	..	..	10	8	6
83.—NUN (Black)—Cock or Hen	..	..	10	8	6
84.—Ditto (Any other colour)—Cock or Hen	..	..	10	8	6
85.—ARCHANGEL—Cock	..	..	10	8	6
86.—Ditto—Hen	..	..	10	8	6
87.—MODENA—Cock	..	..	10	8	6
88.—Ditto—Hen	..	..	10	8	6
89.—FANTAIL (White)—Cock or Hen	..	..	10	8	6
90.—Ditto (Any other colour)—Cock or Hen	..	..	10	8	6
91.—FLYING TIPLER or TUMBLER—Cock	..	..	10	8	6
92.—Ditto—Hen	..	..	10	8	6
93.—WORKING HOMER—Cock	..	..	10	8	6
94.—Ditto—Hen	..	..	10	8	6
95.—Any other Variety—Cock or Hen	..	..	10	8	6
96.—SELLING CLASS (Any Variety, not to exceed £2)—Cock or Hen	..	..	10	8	6
97.—Ditto (Any Variety, not to exceed £1)—Cock or Hen	..	..	10	8	6

Offered by the Bath Local Committee.

Best Pigeon exhibited in any of the Classes by a resident within a radius of 30 miles of the Guildhall, Bath .. £2

RABBITS.

Entry Fees: Members, 1/6; Non-Members, 2/- each entry.

Judge—G. GARDNER, 11, Haverstock Road, London, N.W.5.

1.—ENGLISH (Black or Blue), 4 months old and over	..	10	8	6
2.—Ditto (Any other colour), 4 months old and over	..	10	8	6
3.—Ditto (Any colour), under 4 months	..	10	8	6
4.—SILVER—Any age	..	10	8	6
5.—DUTCH (Black or Blue), 4 months old and over	..	10	8	6
6.—Ditto (Any other colour), 4 months old and over.	..	10	8	6
7.—Ditto (Any colour), under 4 months	..	10	8	6
8.—CHINCHILLA	..	10	8	6
9.—BEVERAN (Blue)	..	10	8	6
10.—Ditto (White)	..	10	8	6
11.—BELGIAN HARE, 4 months old and over	..	10	8	6
12.—Ditto, under 4 months	..	10	8	6
13.—HAVANA	..	10	8	6
14.—TAN	..	10	8	6
15.—LILAC	..	10	8	6
16.—FLEMISH GIANT	..	10	8	6
17.—Any other Variety, 4 months old and over	..	10	8	6
18.—Ditto, under 4 months	..	10	8	6
19.—SELLING CLASS (Any Variety), price not to exceed £1	..	10	8	6

Offered by the Bath Local Committee.

Best Rabbit exhibited in any of the Classes by a resident within a radius of 30 miles of the Guildhall, Bath .. £2

CONDITIONS AND REGULATIONS FOR LIVE STOCK.

GENERAL.

ENTRIES.

1. The following are the Fees payable for Stock entries made on or before April 6. After that date and up to April 13 entries (except in the Hack and Riding Pony, Remount, Driving and Jumping Classes) will only be received on payment, in each case, of double the fee named below. *Exhibitors are requested to note that no exception can be made to this.* The entry fee is not returnable to an Exhibitor who enters an Animal in a Class for which it is ineligible, or for entries that are withdrawn after the date of entry has expired.

		MEMBERS.	NON-MEMBERS.
		(See Reg. 4 below)	
Shire Horses, Suffolk and Hunters for each entry, including Horse Box	..	25s.	50s.
Arabs and Ponies, including Box	..	10s.	10s.
Hacks, Riding Ponies, Remounts, Driving and Jumping, without Box	..	5s.	10s.
Ditto, with Box (entries close April 6)	..	25s.	50s.
Cattle	..	for each Entry	17s. 6d. 35s.
Nurse Cows	..	for each Entry	40s. 40s.
Sheep and Pigs	..	for each Entry	15s. 30s.
Goats	..	for each Entry	7s. 6d. 10s.

For particulars as to fees in the Produce, Butter-making, Milking, Shoeing, Poultry, Pigeon and Rabbit Classes, see Prize List and Entry forms.

2. Animals entered in the Hack, Riding Pony, Remount, Driving and Jumping Classes, and not having a box in the Yard, must be in the Yard by the time stated on the day on which they compete, and, with the consent of the Stewards may leave the Yard as soon as they have been judged. Entries in these Classes, if no Box is required, must reach the Secretary not later than 12 noon on the day previous to the competition for which the animal is entered. If a Box is required the entry must reach the Secretary on or before April 6, or at double fees as stated above, by April 13.

3. No Entry will be received unless the fee accompanies it, and (if the Exhibitor is a Member of the Society) the subscription for the year, unless previously paid, together with any arrears that may be due.

4. The privilege of entering at Members' fees is strictly limited to members of the Society, elected on or before January 31, 1927, and subscribing not less than £1 annually, or if elected after that date who has paid his subscription for 1927 and an additional £1 to the Society before the date of the closing of entries.

5. Where a Prize is offered for a *pair* or *pen* of Animals, single entry fees only are payable for each *pen* or *pair*, and only one entry form must be used.

6. Exhibitors desiring to send a nurse cow with their exhibits must give notice at the time of making their entry.

7. All Entries must be made on the printed forms to be obtained of the Secretary (F. H. Storr, 3, Pierrepont Street, Bath), and, in applying for Forms, Exhibitors are requested to state how many entries they wish to make of either Horses, Cattle, Sheep, Goats or Pigs, as a separate entry form must be filled up for each animal entered in a separate class.

8. Every Exhibitor or Competitor is requested to carefully examine the list of Prizes and Conditions, as he will be held responsible for the correctness of his Certificate of Entry. An Exhibitor omitting to give information asked for on the entry form, with regard to the age, breeder, name, colour, sire, dam, etc., of an animal, will be liable to have his entry disqualified, and, if an exhibitor desires that his animal shall compete for any special prize offered, he must notify this on the entry form where requested to do so.

9. If an Exhibitor or Competitor fails, when called upon by the Stewards or Council, to prove the correctness of his Certificate of Entry to their satisfaction, the Entry may be disqualified and any award made to it cancelled.

10. An Exhibitor who has made, in due time, an entry of Horses, Cattle, Sheep, Goats or Pigs, in a particular class, will be permitted, up to Wednesday, April 20, to withdraw the entry of such animal, and to substitute for it the entry of another animal in the same class, on payment of the difference, if any, between the amount of the entry fee originally paid for the animal withdrawn, and the post entry fee. When, after entry, an animal dies, the exhibitor will be permitted to substitute another entry for it, in the same class, without payment of any further fee, upon affording evidence of death and furnishing particulars of the substituted entry in time for the alteration to be made in the published catalogue.

11. An animal can be entered in as many Classes as it is eligible for on payment of an additional fee in each Class. No additional fee is, however, payable in the case of Special or Champion Prizes for exhibits already entered in any particular Class.

12. Every exhibit must be the *bona fide* property of the Exhibitor both at the time of entry and on the first day of the Exhibition. For the purposes of this Meeting, H.M. Officers' chargers will be considered as the property of the Officer in Classes 53 to 63.

SHOW YARD.

13. The Yard will be open for the reception of Horses (see Regulation 2 for Hacks, Riding Ponies, Remounts, Driving and Jumping Horses), Cattle, Sheep, Goats and Pigs, on Saturday, Sunday and Monday, May 21, 22 and 23. Shire and Suffolk Horses and Hunters will also be received from 6 to 8 o'clock on the morning of the first day of Show, but all other Stock Entries (except Arabs and Ponies, which must be in the Yard before the time stated on Friday, May 27), must be in the Yard by 6 p.m. on May 23. A label denoting the number of each entry will be sent by the Secretary, and must be securely affixed to the head of the Animal. The carriage of exhibits must in all cases be paid by the Exhibitor. No exhibit subject to charges will be received by Officers of the Society.

14. No animal can be removed from its place in the Yard without the special permission of the Stewards.

15. If any animal is brought into the Show Yard without having been entered for exhibition, the owner shall be liable to a fine of £2 and to the forfeiture of any prize awarded to him or her.

16. During the time the Show is open to the public no rug or cloth shall be hung up so as to conceal any animal in a horse-box or stall, except with the special permission of the Steward of the department. All sheets used for the purpose must be removed by 9 a.m. each morning, and must not be replaced until after the closing hour of the Show each day.

17. All Exhibits and all persons in charge of the same, will be subject to the Orders, Regulations, and Rules of the Society, and the Stewards shall have the power to remove from the Yard the Stock or property belonging to, and to cancel the admission ticket of, any Exhibitor who shall infringe any of the Regulations or Conditions of the Meeting, or who shall refuse to comply with any instructions given by the Stewards, without any responsibility attaching to the Stewards or the Society in consequence of such removal.

18. No animal shall be decorated with colours other than the Society's Prize Rosettes.

19. No person will be allowed to fix any placard, or to take down any placard in the Yard, without the permission of the Stewards.

20. All persons in charge of Exhibits will be subject to the orders of the Stewards, and will be required to parade or exhibit the animals in their charge at such times as may be directed by the Stewards. Servants must be in attendance each day during the Show at least a quarter of an hour before the time appointed for exhibiting the animals under their charge in the Show rings. Servants in charge of animals must see that the animals' boxes or stalls are kept clean. Stockmen are required to clear their sheds of manure by 6 a.m. each day. No oil or cooking stove of any description must be lighted in the Horse Boxes, and any one found offending in this respect will be dealt with in accordance with Regulation 33. Owners of animals exhibited will be held responsible for the behaviour of their Servants, and for the consequences of any misconduct of such Servants.

21. Servants in charge of Stock at night must, if they leave the Yard, return before 10 p.m., or they will not be admitted.

22. On the day previous to the opening, and on each day of the Show, hay or green food and straw will be supplied by the Society free of expense to exhibitors at the Forage Stores in the Show Yard. Servants must apply at the Forage Stores for their Forage Tickets after they have brought their animals into the Yard. Corn, meal, and cake can be obtained in the Show Yard at fixed prices.

NOTE.—For the convenience of Exhibitors wishing to sell their animals, a Register will be kept at the Secretary's Office, in which they may enter the prices.

TICKETS.

23. Each Exhibitor of Live Stock whose entry fees amount to £1 and upwards will have a free Ticket of admission to the Show Yard sent to him, except in the case of a Member, who will receive his Member's Badge in lieu of an Exhibitor's Ticket. Tickets for the use of Servants in charge of Live Stock remaining in the Yard will also be sent, and the Exhibitor will be held responsible for the proper use of such Tickets. In the case of animals not having a box in the Yard, a Servant's Ticket will not be required, as the official label will admit the Driver or Rider, Horse and Vehicle into the Yard. In case of transfer or other improper use of a Ticket the Exhibitor will be required to pay a fine of £1 for each case. Exhibitors will be held responsible for the attendance at each Parade of as many Servants as Tickets have been issued for.

RESPONSIBILITY.

24. Neither the Society nor any of its Officers or Servants shall be in any way responsible or accountable for anything that may happen (from any cause or circumstances whatever) to Exhibitors or their Servants, or to any animal or article exhibited, or property brought into the Show Yard, or otherwise for anything else in connection with, or arising out of, or attributable to, The Society's Show, or these or any other Conditions or Regulations prescribed by the Society in relation thereto.

25. Each Exhibitor shall be solely responsible for any consequential or other loss, injury, or damage done to, or occasioned, by, or arising from, any animal or article exhibited by him, and shall indemnify the Society against all legal or other proceedings in regard thereto.

26. The Society, its Officers and Servants, will not be liable for any errors or mistakes that may happen in placing or penning the Stock or Articles to be exhibited, but the Servants in charge of the same must see that they are placed or penned according to their entries.

DISQUALIFICATION.

27. The use of resin, soap, sawdust above the knee, or other substances designed to give an artificial appearance; cording; or other improper means adopted in showing an animal in the Agricultural Horse Classes will be regarded as a disqualification.

28. No animal which has been exhibited as Fat Stock at any Show shall be eligible to compete for the Prizes offered in this Prize Sheet.

29. An animal in the Breeding Classes having any unsoundness likely to be transmitted to its progeny shall be disqualified thereby from receiving any Prize offered by or through the Society.

30. If it shall be proved to the satisfaction of the Stewards or Council that an Exhibitor or Competitor has knowingly signed an incorrect Certificate, or knowingly given an incorrect Pedigree of any animal, or has attempted to enter an animal or other exhibit or to obtain a Prize by any other unfair means at this or any other Agricultural Society's Meetings, or is under exclusion from any Breed Society for fraudulent practices, the Council shall have the power to cancel all awards made to such Exhibitor or Competitor, to disqualify him or her from exhibiting or competing at future Meetings of the Society, and to inform other Agricultural Associations of their action in this respect.

PENALTIES.

31. As the non-exhibition of animals entered for the Show causes unnecessary preparations and expense, and disarranges the Show Yard, any person entering Stock, and failing to exhibit the same, shall pay a penalty of 10s. for each entry, unless a Certificate, under the hand of the Exhibitor or his authorised agent, be lodged with the Secretary of the Society, before the day of exhibition, certifying that such non-exhibition is caused either by—(1) the death of the animal or animals; or (2) contagious or infectious disease (confirmed by the explanatory certificate of a Veterinary Surgeon) or other sufficient cause; or (3) by its becoming ineligible for the Class in which it has been entered. The fine is not remitted in the case of an Exhibitor selling an animal between the time of entry and the date of the Show.

32. Every Exhibitor will be required to undertake to forfeit and pay to the Society the sum of £20, as and for liquidated damages, if any animal which he exhibits be, to his knowledge, suffering from any contagious or infectious disease, and the Stewards are empowered to prevent the entry of any diseased animal into the Yard, or to have it removed therefrom.

33. Any infringement of any of these or any other prescribed Regulations or Conditions will subject the Exhibitor to a fine of £1 by the Stewards, and to the forfeiture, by order of the Council, of any Prize to which he may be entitled (in addition to all other consequences attaching to such infringement). The Council reserves to itself the right to inform other Agricultural Associations of any decision it may come to with respect to an Exhibitor.

AWARDS.

34. The Society reserves to itself the right to withhold any prize, if, in the opinion of the Stewards, the conditions and regulations have not been properly complied with, or if, in the opinion of the Judge, there is insufficient merit.

35. Only the signed awards of the Judges are accepted by the Society as evidence that a prize has been awarded, and the production of the prize card or the rosette by an Exhibitor will not entitle him to the prize.

36. The certificate of the Veterinary Inspector, whether as to age or soundness shall be required only in cases where the Judges are in doubt, or where the Stewards may consider it necessary. (See also Regulation 46 with reference to Stallions and Mares). The decision of the Inspector in such cases shall be final and conclusive; and in case it shall be against the animal to which a Prize has been awarded, such animal shall be disqualified from receiving such Prize.

PROTESTS.

37. Any Exhibitor wishing to lodge a protest having reference to Live Stock exhibited at this Meeting must make the same in writing on a form to be obtained from the Secretary, and deposit with him the sum of £3. If, on investigation, the protest is not sustained to the satisfaction of the Stewards, the sum thus deposited, shall, at the discretion of the Council, be forfeited to the funds of the Society. All protests (except in the Hack, Riding Pony, Remount, Driving or Jumping Classes) must be delivered at the Secretary's Office in the Show Yard on the day on which the award is made, and no protest will be **SUBSEQUENTLY** received, unless a reason, satisfactory to the Stewards, be assigned for the delay. Any protest against an award in the Hack, Riding Pony, Remount, Driving or Jumping Classes must be made to the Steward in the ring immediately after the judging of the class to which it refers, and a deposit of £3 must, at the same time, be handed to the Steward. The Stewards will consider such protests at 11 o'clock on the following day at the Secretary's Office, at which time and place any person making a protest must attend or be represented by his authorised agent. The decision of the Stewards shall be final.

APPLYING TO CERTAIN CLASSES ONLY.**HORSES.**

38. Horses can be removed from the Yard at night on deposit by the Exhibitor of £3 at the Finance Office, which sum will be forfeited if the Horse does not return at 8 a.m. each day during the Exhibition. This Regulation does not apply to Animals not having a box in the Yard entered in the Hack, Riding Pony, Remount, Driving and Jumping Classes only.

39. Exhibitors must provide saddles for Horses in Classes 30 to 44, and 53 to 63, as they are to be ridden; and vehicles and harness for those in Classes 45 to 52, which are to be driven.

40. No Horse, unless a Foal, will be admitted into the Ring without a proper bit.

41. The Prizes for Stallions foaled before 1925 will be withheld until a certificate from the owner is delivered to the Secretary that the Horse has served at least 10 Mares during the current season.

42. All Foals must be the offspring of the Mares with which they are exhibited, and the name of the sire of the Foal must be stated on the certificate of entry.

43. Mares entered as in Foal shall, except as otherwise stated hereafter, be certified to have produced a living Foal before August 1 of the year of the Show. If the required Certificate, which must be on a form obtainable from the Secretary, is not received by September 30, 1927, the prize awarded will be forfeited.

44. Horses may, at the discretion of the Stewards, be measured, and the measurement shall be taken in the shoes worn by the entry at the time of judging, and these shoes shall not be removed to allow of the entry being shown in another class.

45. In the Driving Classes for Hackneys exceeding 14 hands (except yearling colts and fillies), no shoe (nails included) may exceed 2lbs. in weight, and for Ponies not exceeding 14 hands, yearling colts and yearling fillies, no shoe (nails included) may exceed 1½lbs. in weight.

46. All Stallions and Mares (yearlings and foals excepted) to which prizes have been awarded in the breeding classes shall be examined by the Society's Veterinary Inspector, and unless pronounced free from indications of hereditary disease shall be ineligible to receive the prize. The owner of an Animal rejected under this Regulation may, upon his application in writing to the Secretary, be furnished with a copy of the Veterinary Certificate. This Regulation shall not, however, apply to any animal holding a Ministry of Agriculture Certificate for the current year, which must accompany the animal and be available for inspection by officers of the Society.

47. The following special conditions apply only to the Medals offered by the Shire Horse Society, viz. : the owner of the animal awarded the Gold Medal to have been a Member of the Bath and West and Southern Counties Society, for not less than six months previous to April 6, 1927 ; a Mare, five years old or upwards, must produce a Foal in the current year, or have had a Foal in the preceding year ; in the case of in-foal Mares a certificate of foaling must be lodged with the Secretary of the Shire Horse Society before the medal will be despatched. No animal to compete which has won the Shire Horse Society's Gold Medal during the current year ; the Royal and London Shows being excepted ; the winning animal to be entered, or eligible for entry in the Shire Horse Society's Stud Book ; and a certificate that the winner is free from hereditary disease signed by the Society's Veterinary Inspector after his examination on the Show Ground, must be lodged with the Secretary of the Shire Horse Society, but Stallions licensed by the Ministry of Agriculture, and Stallions, Mares and Fillies passed at the London Show, shall be exempt from further examination when selected for Medals during the current year. A prize of £2 will also be awarded to the breeder of the animal winning the Medal, provided that he is a member of the Shire Horse Society, and that the Dam is a Mare registered in the Shire Horse Stud Book. All awards must be completed within one month of the date upon which the Medal was awarded, or they will be void. The Council reserves the right to award the prizes only to persons approved by the Shire Horse Society and subject to confirmation in the uncontrolled discretion of the Council. The name and number of the sire of the animal awarded the Bronze Medal must be printed in the Catalogue or proof must be supplied by the Breeder. The exhibitor must be a member of the Shire Horse Society ; and Geldings, 5 years old and upwards must be good and quiet workers. The selected Gelding must be passed as sound by the Society's Veterinary Inspector after his examination on the Show Ground unless officially passed at the previous London Show, when it shall be exempt from further examination. No gelding is eligible to take more than one Bronze Medal during any one year.

48. The following special conditions apply only to the Medal offered by the Hunters' Improvement and National Light Horse Breeding Society for Hunter Brood Mares, viz. :—The Mare awarded the Medal must possess a certificate of soundness from hereditary disease, signed by the Bath and West Society's appointed Veterinary Inspector, who must be a member of the Royal College of Veterinary Surgeons, after his examination of the animal on the Show Ground.

NOTE.—All Brood Mares (except those actually holding the Society's Official Veterinary Certificate of Soundness) awarded the Society's Gold Medals in 1927 and subsequently must comply with this condition as precedent to confirmation. No further Certificates of Exemption will be issued.

49. The following Special Conditions apply only to the Medal offered by the Hunters' Improvement and National Light Horse Breeding Society for best Mare or Gelding of any age exhibited in the Saddle Classes. The Hunter awarded the medal must possess a certificate of soundness from hereditary disease, signed by the Bath and West Society's Veterinary Inspector, who must be a member of the Royal College of Veterinary Surgeons, after his examination of the animal on the Show Ground. The selected Mare, if unregistered, or the selected Gelding, if unentered, must be registered or entered within a month of the award in the Hunter Stud Book. No animal may take more than one of these Medals in 1927. The Judge, in awarding the Medal, is instructed to give preference to animals showing weight-carrying properties.

NOTE.—No awards of the above-named Society's Prizes or Medals to a Hunter named and registered in the Hunter Stud Book and subsequently entered by the owner under another name, will be recognised or confirmed unless a re-entry has been previously lodged by the owner for the Hunter Stud Book and the new name registered by the Society.

50. The following special conditions apply only to the Silver Medal offered by the Hackney Horse Society in the Driving Classes. All horses competing for the

Medal must be by a *Registered Hackney Sire*. All Geldings must be registered in the Stud Book. A certificate signed by the Breeder of any unregistered mare must be forwarded to the Secretary of the Hackney Horse Society before the Medal is despatched. Each animal must be examined by a qualified Veterinary Surgeon on the Show ground, and a certificate of soundness must be supplied. The Medal must be open to all Classes, and not confined to local competition, and the name and number of the sire, and the name and address of the breeder of each animal must appear in the Catalogue. No animal can take more than one of the Silver Harness Medals in any one year.

51. The following special conditions apply only to the Silver Medal offered by the National Pony Society for Polo Pony. The Judge is instructed to withhold the Medal unless he considers the exhibit of Polo and Riding Pony type. The owner of the winner must be a member of the National Pony Society or have lodged a form of application within 14 days of the award. No Pony may win more than one Silver Medal under this scheme in one season.

52. The Jumping Competitions will be carried out in accordance with, and judged under the rules of, the Show Jumping Association. The jumps may consist of a single hurdle, gate, double hurdle, open ditch, bank, wall, and water, at the discretion of the Judge and Stewards. Each horse competing shall have its catalogue number affixed in such a way as to be easily seen by the general public.

CATTLE.

53. All cattle must be properly secured to the satisfaction of the Officers of the Society on being brought to the gate of the Yard, or they will not be admitted. All Bulls must have a ring or clamp attached to the nose and, in the aged Classes, must be provided with a strong chain, and be led with a proper stick.

54. All cattle will be required to be paraded in the ring at least once a day at the discretion of the Stewards.

55. No Bull calved before January 1, 1925, or in the Aberdeen-Angus Classes before December 1, 1924, will be eligible to receive a Prize until certified to have served not less than six different cows (or Heifers) previous to June 1st, 1927, and to be the sire of live calves dropped in the year 1927, or in the Aberdeen-Angus Classes after December 1st, 1926. No Cow or Heifer, entered as in-milk, will be eligible to receive a Prize unless certified to have had a living Calf within the fifteen months preceding the date of the Show, or that the Calf, if dead, was born at the proper time.

56. Every Cow or Heifer in-milk shall be milked dry in the Show Yard by 7.30 p.m. on the evening preceding the day of judging, in the presence of an officer of the Society appointed for the purpose.

57. Any animal in the Cattle Classes found to be artificially coloured will be disqualified.

58. The milk yielded by Cows in the Show Yard must not be sold at the stalls, but will be purchased by the Society for the purpose of the Dairy at a price to be agreed upon, and will be paid for on delivery at the Milk Receiving Office in the Dairy.

59. The following conditions apply only to the prizes offered for Pedigree Dairy Shorthorn Milking Cows:—The Cows and Heifers entered will be clean milked out at 6 o'clock on the evening preceding the opening of the Show to the satisfaction of the Stewards, and will be again milked in the ring on the first morning of the Show in the presence of the Judge, who shall see the Milk weighed. No animal being 4 years and 3 calendar months of age and upwards on the first day of the Show shall be eligible to compete unless it possesses the following minimum milk yields given in 315 consecutive days of one lactation period, such milk

yields shall have been entered or accepted for entry in the Year Book of the Dairy Shorthorn Association and must be supplied with the entry :—

Age on first day of the Show.	Minimum Milk Yields if milked twice daily	Minimum Milk Yields if milked three times daily for more than 30 days after calving.
6 years and 3 calendar months and upwards	lbs. 8,000	lbs. 9,200
5 years and 3 calendar months and under 6 years and 3 calendar months	6,500	7,475
4 years and 3 calendar months and under 5 years and 3 calendar months	5,500	6,325

Animals under 4 years and 3 months old on the first day of the Show must yield up to the following standard :—

	Having calved within 2 calendar months of the 1st day of the Show.	Having calved between 2 and 3 calendar months of the 1st day of the Show.	Having calved more than 3 calendar months before the 1st day of the Show.
	lbs. of milk.	lbs. of milk.	lbs. of milk.
Heifers, over 3 years and 3 calendar months and under 4 years and 3 calendar months of age, not less than	23	20	17
Heifers, under 3 years and 3 calendar months of age, not less than (Ages to be calculated to the first day of the Show).	19	16	13

60. The following conditions apply only to the special prize offered for Pedigree Dairy Shorthorn Bulls, calved in 1926. The Bull must comply with the requirements necessary for inclusion in the Dairy Shorthorn Association's list of qualified Bulls and must possess the following further qualifications :—That the following cows in the pedigree of such bull are, or are entitled to be, registered as qualified cows in the Association's Register, viz. : 1, the dam of the bull's dam ; 2, the dam of the dam of the bull's sire ; 3, the dam of the sire of the bull's dam. No bull having taken one of these prizes to be eligible to compete again the same year, except at the R.A.S.E. Show.

61. In the Kerry and Dexter Classes clipping (except in the case of a few hairs on the top of the tail) will disqualify an animal.

62. The following conditions apply to animals entered in the Milk and Butter Test Classes :—The date of last calving must be given on the entry form and, when an animal calves between the date of entry and that of the Show, notice of such calving must be sent to the Secretary or the animal may be disqualified. Points will be allowed as follows :—

Milk Test Classes :—1 point for each 1lb. of Milk, and points for butter fat at each milking calculated at one-third of the excess percentage over 3% multiplied by the number of lbs. yield. Points are deducted on a similar basis where the Milk is below 3%. 1 point for every completed 10 days since calving, calculated to opening day of Show, deducting the first 40 days, maximum allowance 12 points.

Butter Test Classes :—1 point for each ounce of Butter. Lactation points as in Milk Test.

63. Except in Local and Dairy Classes, every animal entered for competition must be entered, or certified as eligible to be entered, in the Herd Book of its Breed, where such Herd Book exists and has been in existence for not less than seven years, and all cattle must be tattooed in accordance with the rules of their respective Breed Societies, where such rules exist. Where an animal is entered by the

Exhibitor as eligible for entry in the Herd Book of its breed, proof of such eligibility must be furnished to the Secretary at the time of making the entry.

SHEEP.

64. Each pen of Ewes must be of the same Flock.

65. The following conditions apply to the Medal offered by the Southdown Sheep Society:—The sheep competing must be entered or eligible for entry in the Flock Book, and there must be at least three competitors.

66. Except in Local Classes every animal entered for competition must be entered or certified as eligible to be entered, in the Flock Book of its Breed, where such Flock Book exists and has been in existence for not less than seven years, and all Sheep must be tattooed in accordance with the rules of their respective Breed Societies where such rules exist. Where an animal is entered by the Exhibitor as eligible for entry in the Flock Book of its breed, proof of such eligibility must be furnished to the Secretary at the time of making the entry.

PIGS.

67. All Sows farrowed before May 1, 1926 shall be certified to have had a litter of live Pigs within six months preceding the first day of exhibition, or to be in-Pig at the time of entering, so as to produce a litter of Pigs, farrowed at their proper time, before the 1st September following. In the case of in-Pig Sows the Prize will be withheld until the Exhibitor shall have furnished the Secretary with a certificate of farrowing as above. If the required Certificate, which must be on a form obtainable from the Secretary, is not received on or before the 15th September following, the prize awarded will be forfeited.

68. All Pigs exhibited with a Sow shall be her own produce, of the same litter, and not exceeding two months old at the time of the Show.

69. No Sow above 18 months old that has not produced a litter of live Pigs shall be eligible to compete in any of the Classes.

70. Any animal in the Pig Classes found to be artificially coloured, whitened or powdered will be disqualified.

71. Should any question arise as to the age of any exhibit in the Pig Classes, the Stewards shall at the request of the Judge, have the state of their Dentition examined by a competent authority. If the state of the Dentition shall indicate that the age of any of the Pigs does not agree with the Dentition Test, the Stewards shall report the same to the Council, who shall have power to disqualify such Pig or Pigs. The following is the state of Dentition in Pigs which will be considered as indicating that they exceed the ages specified below—Six Months: Pigs having their corner permanent incisors cut will be considered as exceeding this age. Nine Months: Pigs having their permanent tusks more than half up, will be considered as exceeding this age. Twelve Months: Pigs having their central permanent incisors up, and any of the three first permanent molars cut, will be considered as exceeding this age. Fifteen Months: Pigs having their lateral temporary incisors shed, and the permanents appearing, will be considered as exceeding this age. Eighteen Months: Pigs having their lateral permanent incisors fully up will be considered as exceeding this age.

72. Except in the Local Classes, every animal entered for competition must be entered or certified as eligible to be entered in the Herd Book of its breed, where such Herd Book exists and has been in existence for not less than seven years, and must conform to the rules of their respective Societies. In the Berkshire classes the exhibits must be entered or accepted for entry in the British Berkshire Herd Book, and in the Large Black Classes the official ear-marker bearing the Herd Book number must be in the ear of all pigs entered, and the Judges will be instructed not to award prizes unless this regulation is observed, or a reasonable explanation given for the absence of the marker.

**GOATS, CIDER, POULTRY, PIGEONS, RABBITS, DAIRY PRODUCE,
BUTTER MAKING, MILKING AND SHOEING COMPETITIONS.**

For Conditions and Regulations see entry form.

ADJUDICATION OF PRIZES.

73. The Judges are instructed as follows, and entries are received subject to this :

a. Not to award any Prize or Commendation unless the entry possesses sufficient merit.

b. Not to award a Prize to any Horse or Mare in the Breeding Classes, unless it is free from unsoundness likely to be transmitted to its progeny ; or, if a Gelding, unless free from unsoundness ; in either case, an accident having temporary consequences only excepted, and in awarding the Hunters' Improvement Society's Medals to give preference to animals showing weight-carrying properties.

c. In awarding Prizes to Cattle, Sheep, and Pigs, to decide according to the relative merits of the animals for Breeding purposes, and not to take into consideration their present value to the butcher.

d. To make the milking capacity and form of udder one of the chief points in awarding Prizes to Cows and Heifers in-milk.

e. To draw the attention of the Stewards to any exhibit that has been improperly prepared for exhibition or is wrongly entered.

f. To give in a "RESERVE NUMBER" in each Class, indicating the animal or exhibit which in their opinion possesses sufficient merits for the Prize, if the animal or exhibit to which the Prize is awarded should become disqualified. Should the "Reserved Number" succeed to a prize, and be itself disqualified, the prize will be forfeited.

g. Immediately after the Judging to deliver to the Stewards their signed awards stating the numbers to which the Prizes are adjudged, and noting all disqualifications.

74. Should any question arise upon which the Judges may desire a further opinion, the Stewards shall provide them with a Referee.

PAYMENT OF PRIZES.

75. Cheques for the Prizes awarded (except where further qualification of an animal is required) will be drawn at the meeting of the Finance Committee held in July, 1927, and will then be forwarded by post to the Exhibitors to whom they have been awarded.

INTERPRETATION OF CONDITIONS.

76. The Society reserves to itself by its Council the sole and absolute right to interpret these or any other prescribed conditions and regulations, or Prize Sheets, and to arbitrarily settle and determine all matters, questions or differences in regard thereto, or otherwise arising out of or connected with or incident to the Show. Also to refuse and to cancel any entries, disqualify Exhibitors, prohibit exhibition of entries, vary or cancel awards of prizes or reserved numbers, and relax conditions, as the Society may deem expedient.

IMPLEMENTS, MACHINERY, ETC.

Entry Forms and Regulations referring to above, the entries for which close on March 15th, can be obtained of the Secretary, 3, Pierrepont Street, Bath.

By Order of the Council, F. H. STORR, *Secretary.*

Telegraphic Address—"AGRICULTURE," BATH.

Telephone No. 610.

FINANCIAL STATEMENTS

FOR

1926

WITH ITEMS OF 1925 FOR COMPARISON.

	PAGES
SUMMARY OF CASH ACCOUNT	clxxii-clxxiii
ANNUAL CASH ACCOUNT	clxxiv-clxxxiii
ASSETS AND LIABILITIES ACCOUNT	clxxxiv
FINANCIAL RESULT OF THE SHOW	clxxxv

The Bath and West and

Dr.

SUMMARY OF THE CASH ACCOUNT

WITH COMPARATIVE

Page of accompany- ing Cash Account.	RECEIPTS.	1926. WATFORD.		1925. MAIDSTONE.	
		£ s. d.	£ s. d.	£ s. d.	£ s. d.
	GENERAL.				
clxxiv	Dividends and Interest	796 8 4		901 18 9	
"	General	1 9 6		12 16 0	
"	Subscriptions	1,082 6 0		1,080 18 0	
"	Life Members	60 0 0		60 0 0	
"	Journal	49 1 7		58 4 3	
			1,989 5 5	2,113 17 0	
	SHOW.				
clxxvi	Implements	2,232 9 11		2,819 16 5	
"	Horses	890 10 0		979 13 6	
"	Cattle, Sheep, Goats and Pigs	1,902 18 4		1,893 0 0	
"	Catalogues, Fodder, etc.	129 15 5		142 0 7	
		2,923 3 9		3,014 14 1	
clxxviii	Poultry, Pigeons and Rabbits	112 12 6		61 9 0	
"	Shoeing	11 16 0		27 12 0	
"	Education and Handicrafts	3 10 0			
"	Music	4 4 8		13 7 10	
clxxx	Cheese and Butter	53 2 9		46 14 9	
"	Working Dairy	108 8 2		99 13 11	
"	Cider	5 14 6		12 17 6	
"	Hops			84 15 0	
"	Admissions	2,452 12 6		4,714 11 3	
clxxxii	Unapportionable :—				
	Contract Premiums and Cloak Rooms	857 12 4		942 7 2	
	Sales and Fittings	308 18 2		654 10 2	
		1,166 10 6		1,596 17 4	
"	Subscriptions from Towns	800 0 0		800 0 0	
			9,874 5 3	13,292 9 1	
			11,863 10 8	15,406 6 1	
"	Sale of War Loan Stock		3,473 7 10	1,006 9 6	
"	Deposit returned			1,500 0 0	
"	Balance in Bank, January 1st		1,082 0 10	974 4 2	
"	Balance due to Bank, December 31st		857 15 6		
			17,276 14 10	18,886 19 9	

Southern Counties Society.

FOR THE YEAR ENDING DEC. 31ST, 1926.

CR.

STATEMENT FOR 1925.

Page of accompany- ing Cash Account.	PAYMENTS.	1926. WATFORD.		1925. MAIDSTONE.	
		£ s. d.	£ s. d.	£ s. d.	£ s. d.
	GENERAL.				
clxxv	Salaries	1,338	1 0	1,333	4 7
"	Printing, Postage, Stationery, etc.	544	7 11	535	11 2
"	Journal	466	18 5	439	10 11
			2,349 7 4	2,308	6 8
	SHOW.			1,167	0 11
clxxvii	Implements	850	2 5	1,061	13 1
"	Horses	£2,047	13 5	4,076	19 7
"	Cattle, Sheep, Goats and Pigs	4,376	12 7	1,083	12 4
"	Fodder, etc.	1,019	15 0		
		7,444	1 0	7,124	5 0
clxxix	Poultry, Pigeons and Rabbits	538	12 5	351	5 2
"	Shoeing	148	1 8	208	15 10
"	Education and Handicrafts	250	13 3	410	19 0
"	Forestry	96	10 0	165	19 0
"	Music	177	18 2	201	7 6
"	Small Holdings and Allotments			6	14 5
clxxxI	Horticulture	208	5 0	346	7 5
"	Cheese and Butter	206	9 0	231	9 10
"	Working Dairy	602	15 4	580	5 11
"	Cider	125	14 3	161	8 0
"	Hops			88	17 7
clxxxiii	Public Announcements	653	5 2	754	6 8
"	Unapportionable :-				
	Erection of Offices, etc. .. £2,231 4 0			2,382	8 10
	Carriage of Plant 212 1 0			182	11 3
	Stand Fittings 130 0 1			235	12 5
	Police 170 11 8			722	17 5
	Miscellaneous 749 4 8				
		8,493	11 11	3,523	9 11
			14,796 0 4	15,322	12 2
"	EXPERIMENTS.		131 7 2	131	0 1
			17,276 14 10	17,761	18 11
"	INVESTMENTS.			43	0 0
	Balance in Bank, December 31st			1,082	0 10
			£ 17,276 14 10	18,866	19 0

January 18th, 1927.

Audited and found correct,

F. CLIFFORD GOODMAN, F.C.A.,

Auditor.

Passed by Council,

January 25th, 1927.

F. H. STORR,

Secretary.

The Bath and West and

Dr.

CASH ACCOUNT FOR THE YEAR ENDING DEC. 31st,

RECEIPTS.		1926. WATFORD.		1925. MAIDSTONE.	
		£ s. d.	£ s. d.	£ s. d.	£ s. d.
DIVIDENDS AND INTEREST.					
War Loan Stock		86 4 1		195 5 8	
South Australian Stock		33 3 2		32 12 10	
New Zealand Stock		43 18 0		43 4 4	
India Stock		180 18 8		178 2 0	
New South Wales 4 per cent. Stock		129 17 0		127 16 5	
Canadian Pacific Railway Stock		48 0 0		47 5 0	
Conversion 3½ per cent. Insc. Stock		168 0 0		165 7 6	
New South Wales 5 per cent. Stock		100 0 0		98 8 9	
Interest on Current Account		6 7 5		13 16 3	
			796 8 4	901 18 9	
GENERAL.					
Sale of old Blocks, etc.			1 9 6	12 16 0	
SUBSCRIPTIONS FROM MEMBERS.					
Arrears		34 3 0		31 1 0	
Governors		142 14 0		147 12 0	
Subscribers of £1 and upwards		900 9 0		897 5 0	
" " 10/-		5 0 0		5 0 0	
			1,082 6 0	1,080 18 0	
LIFE COMPOSITIONS			60 0 0	60 0 0	
JOURNAL.					
Sales		5 5 7		13 6 5	
Advertisements		48 16 0		44 17 10	
			49 1 7	58 4 3	
Carried forward			1,989 5 5		

Southern Counties Society.**1926, WITH COMPARATIVE STATEMENT FOR 1925.****CR. °**

PAYMENTS.		1926. WATFORD.		1925. MAIDSTONE.	
		£ s. d.	£ s. d.	£ s. d.	£ s. d.
SALARIES.					
Secretary and Editor	650 0 0			650 0 0	
Assistant Secretary	450 0 0			450 0 0	
Office Staff	178 1 0			173 4 7	
Auditor	30 0 0			30 0 0	
Consulting Chemist	30 0 0			30 0 0	
			1,338 1 0		1,333 4 7
MISCELLANEOUS.					
Printing, Stationery and Finance Books ..	87 13 10			89 8 5	
Postages, Telegrams, Insurance, Cheque and Receipt Stamps	82 4 10			75 13 8	
Ground Rent and Rates	28 18 6			28 16 4	
Property Tax	8 6 0			9 6 9	
Travelling Expenses	46 11 5			51 7 1	
Carriage of Goods	19 9 9			15 9 6	
Directories and Reference Books	7 1 0			0 7 0	
Subscriptions	13 6 0			11 15 0	
Repairs and Fittings	11 1 1			17 12 1	
Hire of Council Rooms	2 6 0			2 4 0	
Fuel and Light	8 15 6			16 9 6	
Telephone	14 16 0			14 19 10	
Council Grants and Allowance to Widow of late Secretary	102 7 10			202 2 0	
Finance Committee's Expenses	8 16 2				
Income Tax Appeal	53 10 3				
Bank Charges	40 3 9				
			544 7 11		535 11 2
JOURNAL.					
Printing and Stationery	340 14 0			325 3 3	
Plans and Blocks	25 3 6			20 9 10	
Distribution	31 18 5			34 9 10	
Postages, Stationery, Reference Books, etc. ..	8 0 0			7 0 0	
Authors	61 2 6			52 8 0	
			466 18 5		439 10 11

Dr.

CASH ACCOUNT—continued.

RECEIPTS.			1926. WATFORD.		1925. MAIDSTONE.
			£ s. d.	£ s. d.	£ s. d.
Brought forward	..	..		1,089 5 5	
IMPLEMENTS.					
Fees for Space :—					
Machinery in Motion Shedding	..	..	816 0 0		806 10 0
Ordinary	..	..	100 0 0		288 0 0
Miscellaneous	..	..	124 0 0		172 10 0
Boarded	..	..	608 15 0		762 15 0
Uncovered Ground	..	..	441 19 11		576 13 11
Catalogue Fees	..	..	56 4 6		71 10 0
Entry Fees	..	..	65 10 0		58 0 0
Additional Assistants' Tickets	..	..	11 0 6		13 17 6
				2,232 0 11	2,819 16 5
HORSES, CATTLE, SHEEP, GOATS and PIGS.					
Horses :—Entry Fees and Fines	..	£359 11 0			258 14 6
Grand Stand Admissions	..	374 6 0			810 0 0
Special Prizes	..	158 13 0			110 10 0
			890 10 0		979 13 6
Cattle, Sheep, Goats and Pigs.					
Entry Fees	..	£1,192 10 0			1,102 10 0
Fines	..	24 10 0			27 0 0
Special Prizes	..	685 18 4			763 10 0
			1,902 18 4		1,893 0 0
Catalogues, Manure and Fodder	..	£117 3 5			116 16 7
Advertisement in Prize List	..	12 12 0			25 4 0
			129 15 5		142 0 7
				2,023 3 9	3,014 14 1
Carried forward	..	..		7,144 10 1	

CASH ACCOUNT—continued.**CR.**

	PAYMENTS.	1926. WATFORD.		1925. MAIDSTONE.	
		£	s. d.	£	s. d.
	Brought forward			2,349	7 4
IMPLEMENTS.					
	Shedding	67	2 10	961	4 7
	Stewards and Assistants	124	1 1	130	6 7
	Printing, Stationery, etc.	46	18 6	60	9 9
	Fees returned			15	0 0
				850	2 5
HORSES, CATTLE, SHEEP, GOATS and PIGS.					
	Horses :—Prizes	£1,164	2 0	1,093	5 6
	Shedding & Grand Stand	705	9 1	875	13 6
	Stewards and Assistants	118	18 11	139	7 2
	Judges	59	3 5	44	1 2
	Carriage			9	5 9
		2,047	13 5	1,961	13 1
Cattle, Sheep, Goats and Pigs.					
	Cattle Prizes	£1,456	0 0	1,323	0 0
	Sheep	521	0 0	583	0 0
	Goats	37	5 0	28	10 0
	Pigs	587	0 0	523	0 0
	Shedding and Canvas	1,462	2 10	1,312	13 1
	Stewards and Assistants	105	12 10	116	14 9
	Judges	189	9 5	176	3 8
	Fees returned, etc.	18	2 6	15	18 1
		4,376	12 7	4,078	19 7
Buildings		£444	8 9	451	18 3
	Fodder and Insurance	335	0 0	384	4 3
	Forage Steward and Assistants	25	14 0	19	12 6
	Veterinary Inspectors	40	10 7	60	5 2
	Rosettes	14	14 0	11	10 6
	Printing, Stationery, etc.	139	14 8	133	8 3
	Refreshments for Judges	19	4 0	22	13 4
		1,019	15 0	1,083	12 4
				7,444	1 0
	Carried forward			10,643	10 9

Dr.

CASH ACCOUNT—continued.

RECEIPTS.					1926. WATFORD.		1925 MAIDSTONE.	
					£	s. d.	£	s. d.
Brought forward							7,144	10 1
POULTRY, PIGEONS and RABBITS.								
Entry Fees					87	6 6		61 3 0
Commission on Sales					1	6 0		0 6 0
Special Prizes					24	0 0		
							112	12 6
								61 0 0
SHOEING.								
Entry Fees					8	6 0		9 12 0
Special Prizes					3	10 0		18 0 0
							11	16 0
								27 12 0
EDUCATION and HANDICRAFTS.								
Entry Fees, Rural Education							3	10 0
MUSIC.								
Chairs							4	4 8
								13 7 10
Carried forward							7,277	2 3

CASH ACCOUNT—*continued.*

CR.

PAYMENTS.		1926. WATFORD.		1925. MAIDSTONE.	
		£ s. d.	£ s. d.	£ s. d.	
Brought forward	.. ..		10,643 10 9		
POULTRY, PIGEONS and RABBITS					
Shed, Staging, Pens and Runs	.. ..	220 11 9		155 7 10	
Steward and Assistants	.. ..	41 17 0		40 16 1	
Judges	.. ..	16 1 2		11 8 0	
Prizes	.. ..	229 13 0		126 10 0	
Printing, Stationery, Carriage, etc.	.. ..	30 9 6		17 3 3	
			538 12 5	351 5 2	
SHOEING.					
Prizes	.. ..	25 0 0		48 0 0	
Judges	.. ..	10 16 0		13 13 6	
Anvils, Forges, Coals, Horses, Printing, etc.	.. ..	6 6 5		21 3 6	
Shedding	.. ..	83 8 3		84 0 10	
Steward and Assistants	.. ..	7 11 0		26 18 0	
Exhibition of Models	.. ..	15 0 0		15 0 0	
			148 1 8	208 15 10	
EDUCATION and HANDICRAFTS.					
Pavilions and Staging	.. ..	226 8 10		393 15 3	
Steward and Assistants	.. ..	19 12 9		12 15 6	
Printing, Postage, Carriage, etc.	.. ..	4 11 8		4 8 3	
			250 13 3	410 19 0	
FORESTRY.					
Pavilion and Staging	.. ..	80 14 2		102 9 5	
Steward, Judge and Assistants	.. ..	9 18 4		15 7 4	
Printing, Postage, etc.	.. ..	5 6 0		4 4 6	
Prizes, Grants and Demonstrator..	.. ..	0 11 6		43 17 9	
			96 10 0	165 19 0	
MUSIC.					
Band Stand, Chairs, etc.	.. ..	31 0 5		46 11 0	
Band and Expenses	.. ..	128 15 0		135 0 0	
Steward and Assistants	.. ..	18 2 9		19 16 6	
			177 18 2	201 7 6	
SMALL HOLDINGS and ALLOTMENTS					
				6 14 5	
Carried forward	.. ..		11,856 6 8		

Dr.

CASH ACCOUNT—Continued.

RECEIPTS.				1926. WATFORD.		1925. MAIDSTONE.	
				£ s. d.	£ s. d.	£ s. d.	
Brought forward					7,277 2 3		
CHEESE and BUTTER.							
Entry Fees and Fines				41 14 0		33 8 6	
Sales				11 8 9		13 6 3	
					53 2 9	46 14 9	
WORKING DAIRY.							
Entry Fees, Competitions	£21	15	6			15 2 0	
" Tests	59	10	0			45 10 0	
				81 5 6		60 12 0	
Sale of Produce				27 2 8		39 1 11	
					108 8 2	99 13 11	
CIDER.							
Entry Fees and Special Prizes					5 14 6	12 17 6	
HOPS.						84 15 0	
ADMISSIONS.							
Admissions at 5/-				321 5 0		461 0 0	
" " 4/-				501 16 0		695 12 0	
" " 3/-				690 9 0		1,006 15 0	
" " 2/6				8 17 6		4 17 6	
" " 2/-				365 18 0		2,306 12 0	
" " 1/6				19 19 0		41 2 0	
" " 1/-				448 4 0			
Schools, etc.				44 19 0		131 10 3	
Season Tickets and Motors				51 5 0		67 2 6	
					2,452 12 6	4,714 11 3	
Carried forward					9,897 0 2		

CASH ACCOUNT—Continued.

CR.

PAYMENTS.			1928. WATFORD.			1925. MAIDSTONE		
Brought forward			£	s.	d.	£	s.	d.
						11,855	6	3
HORTICULTURE.								
Gratuities to Exhibitors			70	0	0			150 0 0
Pavillon and Staging			116	8	4			175 1 7
Steward and Assistant, Printing, etc.			21	16	8			21 5 10
						208	5	0
CHEESE and BUTTER.								
Judges			6	12	0			11 12 10
Prizes			104	0	0			113 0 0
Stewards and Assistants			30	2	0			20 15 10
Pavillon and Staging			60	7	3			80 19 2
Printing, Stationery, Carriage, etc.			5	8	6			5 2 0
						206	0	9
WORKING DAIRY.								
Stewards and Assistants			83	2	7			76 7 8
Judges and Demonstrators			43	14	10			54 14 0
Buildings			236	9	11			245 8 7
Clean Milk Demonstrations			55	5	1			38 7 0
Printing, Stationery, Postage, etc.			6	3	4			6 13 9
Utensils, Carriage, etc.			91	9	2			79 16 5
Prizes			48	19	0			45 2 9
Coal, Salt, Ice, etc.			8	12	11			6 17 3
Milk and Cream			25	4	0			22 11 0
Cows for Milking Competitions			1	16	0			
Fees returned			1	18	6			
Purchase of Plant								4 6 0
						602	15	4
CIDER.								
Pavillon and Staging			34	6	6			34 13 0
Steward and Assistants			21	2	8			28 2 0
Judge			5	15	0			5 1 0
Prizes			48	0	0			70 0 0
Analyses, Carriage, Printing, etc.			16	10	1			23 12 0
						125	14	3
HOPS								88 17 7
Carried forward						12,998	10	7

CASH ACCOUNT—*continued*.

CR.

PAYMENTS.	1926. WATFORD.			1925. MAIDSTONE.		
	£	s.	d.	£	s.	d.
Brought forward				12,998	10	7
PUBLIC ANNOUNCEMENTS.						
Advertising	233	14	6			301 0 0
Billposting	321	2	0			319 0 0
Railway Placards	43	4	6			69 1 6
Printing	55	4	2			65 5 2
				653	5	2
SHOW (Unapportionable).						754 6 8
Official Buildings, etc.	1,863	15	1			1,925 1 7
Hoarding	387	9	8			457 7 3
Carriage of Plant	212	1	9			182 11 3
Stand Fittings	130	9	1			235 12 5
Insurance	50	6	6			52 10 6
Furnishing Official Buildings, etc.	42	18	3			32 12 6
Mess Room, Allotment Expenses, etc.	12	3	4			21 18 6
Gatekeepers, Yardmen and Messengers	207	9	11			225 13 9
Stewards of Finance and Treasurer	33	16	0			47 7 8
Inspector of Cash and Assistant	49	6	6			51 6 6
Secretaries' Expenses and Finance and Treasurer's Clerks	42	6	0			49 13 0
Police, Badges, etc.	170	11	8			4 1 6
Catalogues for Press and Officials	20	1	10			16 3 0
Purchase of Plant	153	3	6			50 8 5
Printing, Stationery and Commission on Season Tickets	90	10	9			100 2 5
Telegraph and Telephone	39	7	5			55 14 8
Council Grants, &c.	7	14	8			15 5 0
				3,493	11	11
EXPERIMENTS.						3,523 9 11
Cider—Grant to Cider Institute	100	0	0			100 0 0
Rough Pastures.— Manures, Inspection and Labour .. 8 11 5						
Limestone— Travelling Expenses, Carriage and Printing 22 15 9						
	31	7	0			31 0 1
				131	7	2
INVESTMENTS				17,276	14	10
						17,761 18 11
						43 0 0
Balance in Bank, December 31st						1,082 0 10
				£ 17,276	14	10
						18,886 19 9

JANUARY 18TH, 1927.

I hereby certify that I have examined the foregoing accounts for the year ending December 31st, 1926, compared the payments entered with the vouchers, and found them all in order and correct.

F. CLIFFORD GOODMAN, F.C.A.,
Auditor.

Passed by Council,
January 25th, 1927.

F. H. STORR, Secretary.

ASSETS AND LIABILITIES ACCOUNT TO DECEMBER 31st, 1926, WITH COMPARISON FOR 1925.

				1926.		1925.	
				WATFORD.	MAIDSTONE.	WATFORD.	MAIDSTONE.
				£ s. d.	£ s. d.	£ s. d.	£ s. d.
ASSETS.							
INVESTMENTS							
£ s. d.	STOCK.	Actual Cost £ s. d.	Market Value £ s. d.				
1,568 1 6	New Zealand 3½ % 1940	1,500 0 0	1,932 17 0				
7,538 15 1	India 3 %	7,277 5 1	4,523 5 0				
4,057 16 0	New S. Wales 4 % 1933	4,000 0 0	3,652 1 6				
1,500 0 0	Can. Pac. Ry. 4 % Deb.	1,576 2 6	1,185 0 0				
1,036 3 3	S. Australian 4 % 1940/60	1,000 0 0	818 11 4				
6,000 0 0	Conversion 3½ % Inscribed	4,747 16 0	4,545 0 0				
2,500 0 0	N. S. Wales 5 % 1935/55	2,483 0 3	2,350 0 0				
		22,784 3 10	18,406 14 10				
FUND FOR REPLACEMENT OF CAPITAL							
SHOW PLANT .. .. .		.. .. .	.. .. .	1,250 10 7	1,236 6 1	112 3 6	112 3 6
HOUSE PROPERTY .. .. .		.. .. .	£933 10 7		633 10 7		
FURNITURE AND FITTINGS .. .. .		.. .. .	160 6 0		164 8 3		
				793 16 7	797 18 10	45 0 5	
SUBSCRIPTION ARREARS .. .. .		.. .. .	.. .. .	111 9 0	153 5 0		
JOURNAL SALES .. .. .		.. .. .	.. .. .	2 10 0	2 10 0		
BALANCE IN BANK, December 31st		.. .. .	.. .. .	20,565 1 0	24,089 15 9	2,364 19 5	1,757 4 4
					1,082 0 10	13,290 1 7	23,414 12 3
				£20,565 1 0	£25,171 16 7	£20,665 1 0	£25,171 16 7
LIABILITIES.							
BATH MERTING						800 0 0	800 0 0
JOURNAL, cost of, estimated at						550 0 0	550 0 0
DUE TO FUND FOR RE-PLACEMENT OF CAPITAL							45 0 10
INCOME TAX DEMAND						112 3 6	112 3 6
ACCOUNTS UNPAID							250 0 0
Show						38 9 5	
General						8 11 0	
DUE TO BANK						857 15 6	
BALANCE							

January 18th, 1927.

I hereby certify that I have audited the above Balance Sheet, and that, in my opinion, it is correct, and shows the true position of the Society's affairs according to the Books. The securities for the Society's Investments have been produced to me, and I have found them in order. The various Stocks have been valued by the Society's Bankers.

F. CLIFFORD GOODMAN, F.C.A., Auditor.

Passed by Council
January 25th, 1927.
F. H. STORR, Secretary.

Bath and West and Southern Counties Society.

STATEMENT SHOWING FINANCIAL RESULT OF THE WATFORD (1926) SHOW.

Printed Financial State- ments.				
Page		£ s. d.	£ s. d.	£ s. d.
clxxiii	Show Payments as per			
	Summary ..	14,796 0 4		
clxxxiv	Show Accounts unpaid ..	36 9 5		
			14,832 9 9	
	Less Show Plant purchased ..	153 3 6		
	Less 10% for Depreciation ..	15 6 3		
			137 17 3	
				14,694 12 6
clxxii	Show Receipts as per Summary ..	..		9,874 5 3
	Loss on 1926 Show ..	..		<u>£4,820 7 3</u>

BATH AND WEST AND SOUTHERN COUNTIES SOCIETY,

FOR THE

*Encouragement of Agriculture, Arts, Manufactures and Commerce.***LIST OF MEMBERS, 1927.****PATRON.****HIS MOST GRACIOUS MAJESTY THE KING.****PRESIDENT.****H.R.H. THE DUKE OF YORK, K.G.****TRUSTEES.****THE MOST HON. THE MARQUIS OF BATH, K.G.****SIR J. SHELLEY, BART.****H. B. NAPIER, Esq.***Names thus (*) distinguished are Governors.**Names thus (†) distinguished are Life Members.**** Members are particularly requested to make the Secretary acquainted with any errors in the names or residences.*

Name.	Residence	Sub- scriptions		
		£	s.	d.
*†His Most Gracious Majesty the King	Windsor Castle .. .. .	..	..	..
*†Wales, H.R.H. Prince of K.G.	St. James' Palace, London .. .. .	..	..	..
*†York, H.R.H. Duke of K.G.	St. James' Palace, London .. .. .	..	..	..
Ackers, Chas. P.	Huntley Manor, Gloucester	1	0	0
Ackers, Miss C. V.	Hellings, Wiveliscombe	1	0	0
Ackland, J.	Francis Court, Broadclyst, Exeter	1	0	0
Acland, Alfred Dyke .. .. .	.. .. .	1	0	0
Acland, Right Hon. Sir F. Dyke, Bart.	Killerton, Exeter	1	0	0
Adams, E. C.	The Cedars, Trowbridge, Wilts	1	0	0
Aldridge, D.	Sketchley Hall Farm, nr. Hinckley, Leicester	1	0	0
*Alexander, G. C.	Manor House, Winterbourne Stoke, Salisbury	2	2	0
Alexander, Hubert	5, High Street, Cardiff	1	1	0
Alfa Laval Chadburn Co. (Ld.)	Wellington House, Buckingham Gate, London, S.W.	1	0	0
Allen, A.	Chesterblade, Shepton Mallet	1	0	0
Allen & Foster	Corn and Seed Merchants, Shepton Mallet	1	1	0
Allen, J. R.	Cheese Merchant, Shepton Mallet	1	1	0

Subscriptions.

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Name	Residence	Sub- scriptions	£	s.	d.
Allen, Stafford & Sons (Ld.)..	Long Melford, Suffolk		1	0	0
Allen, W. T.	Bradley House, West Pennard, Bridgwater		1	0	0
Allison, F.	Newbiggin, Penrith, Cumberland..		1	0	0
Allott, Major P. B.	Little Ashton, Codford, Wilts ..		1	0	0
Ames, Mrs. O.	Blackdown, Upham, Southampton		1	1	0
Amesbury, A.	Loxton, Axbridge		1	1	0
Anglo-Continental Guano Works	Dock House, Billiter Street, E.C.3.		1	0	0
Anglo-Swiss Condensed Milk Company	Chippenham.. ..		1	0	0
*Ansdell, C. W.	Leckford Abbas, Stockbridge, Hants.		2	0	0
Anstruther, C. J.	Woolston Grange, Williton, Somerset		1	1	0
†Aplin, R. M. S.	12, Sydney Place, Bath				
†Aplin, Mrs. R. M. S.	12, Sydney Place, Bath				
Argent, W. A.	Ghyll Manor, Ruspur, Sussex ..		1	0	0
Armitage, G.	Conkwell Grange, Limpley Stoke, near Bath.. ..		1	0	0
Armitage, T. C.	Dean Court, Taunton		1	1	0
Armitage, Mrs.	Dean Court, Taunton		1	1	0
Armstrong, E. G.	Sand Farm, Kew Stoke, Somerset		1	0	0
Arnold and Sons	52, Wigmore Street, London, W. ..		1	0	0
†Ashcomb, Lord	Denbies, Dorking				
†Ashcroft, W.	13, The Waldrons, Croydon				
Asher, S. G.	Ascot Place, Ascot		1	0	0
Associated Manufacturers Co.	72-80, Mansell Street, Aldgate, E.1.		1	0	0
*Astor, Lord	Cliveden, Taplow, Bucks		2	0	0
Atkinson, Brig. Genl. B., C.B., C.M.G.	Mistley Hall, Manningtree, Essex		1	0	0
Attle, Miss E. M.	Dormeston, Inkberrow, Worcs. ..		1	0	0
Austin, E. A.	Baltonsborough, Glastonbury ..		1	1	0
†Avebury, Lord	High Elms, Hayes, Kent				
†Aveling, Thomas L.	Rochester				
Avon Manure Company (Ld.)	St. Philip's Marsh, Bristol		1	0	0
Awdry, E. M.	Chippenham, Wilts		1	1	0
Ayre, W.	Hurcot, Somerton, Somerset ..		1	1	0
Badcock, H. Jefferies	Broadlands, Taunton		1	0	0
Badock, S. H.	Holmwood, Westbury-on-Trym, Bristol		1	1	0
Bailey, W. T. & A. G.	Great House Farm, Hemel Hemp- stead, Herts.		1	0	0
Bainbridge, Mrs. R. C.	Elfordleigh, Plympton, Devon ..		1	0	0
†Baker, Hiatt C.	Oaklands, Almondsbury				
Bamfords (Ld.)	Uttoxeter		1	0	0
Barber, J. Guttridge	Fylde House, Oxford Road, Exeter		1	0	0
Barford & Perkins (Ld.)	Peterborough		1	0	0
Barham, G. T.	Sudbury Park, Wembley, Middlesex		1	1	0
*Barker-Hahlo, H. .. ..	.. ..		2	0	0
Barnes, Major-Gen. Sir R. W. R., K.C.B., D.S.O.	Oakhay, Stoke Canon, near Exeter		1	0	0
Barnett, D. P.	Walterston, Llancarvan, Cowbridge		1	0	0

Name	Residence	Subscriptions		
		£	s.	d.
Barrett, D.	Eastbrook, Trull, Taunton	1	1	0
†Barrett, A. G.	Eastbrook, near Taunton . . . . .	..	..	..
Barrett, Col. W.	Moredon, North Curry, Taunton	1	0	0
Barry, Lieut.-Col. A. P.	Baltonsborough, Glastonbury	1	0	0
Bartow, J. J. J.	The Lodge, Weston-super-Mare	1	1	0
Basic Slag and Phosphate Co. (Ld.)	69, Queen Victoria Street, London, E.C.4.	1	1	0
Bassett, A. F. . . . .	.. . . .	1	0	0
Bastard, H. E.	Tinten Manor, St. Tudy, S.O., Cornwall	1	0	0
*†Bath, Marquis of, K.G.	Longleat, Warminster . . . . .	..	..	..
Bath Gas Company	Bath	1	0	0
Bathurst, Major Sir F. Hervey, Bart., D.S.O.	Somborne Park, King's Somborne, Hants	1	1	0
Bathurst, Lady K. Hervey	Somborne Park, King's Somborne, Hants	1	1	0
*†Batten, Major H. C., D.S.O.	Aldon, Yeovil . . . . .	..	..	..
Batten, Col. Cary . . . . .	.. . . .	1	0	0
Batten-Pooll, R. H.	Road Manor, Bath	1	0	0
†Baxendale, J. Noel	Froxfield Green, Petersfield . . . . .	..	..	..
†Beadle, F.	Stowey Farm, Timberscombe, Taunton . . . . .	..	..	..
Beak, J. D.	Maiden Bradley, Bath	1	0	0
Bearcroft, Mrs.	Wellington Hotel, Wellington College Station, Berks	1	0	0
Beatty, A. Chester	Calehill Park, Little Chart, Kent	1	0	0
Beauchamp, Sir F. B., Bart.	Woodborough House, Peasedown St. John, Bath	1	0	0
Beauchamp, L. B.	Norton Hall, near Bath	0	0	0
*Beaufort, Duke of	The Cottage, Badminton, Glos.	0	0	0
Bell, Lieut.-Colonel M. G. E.	Bourne Park, near Canterbury	0	0	0
Benett-Stanford, Capt. J.	Hatch House, Tisbury	0	0	0
Bennett, Brothers	Journal Office, Salisbury	1	0	0
Bennett, R. A.	Thornbury, Glos.	1	0	0
Benyon, H. A.	Upton Court, near Reading	1	1	0
*Benyon, J. Herbert	Englefield House, Reading	5	0	0
Berry, Grosvenor	Mount Bures, Bures, Suffolk	1	0	0
Berryman, F. H.	Field House, Shepton Mallet	1	1	0
Bessant, W.	Skinners Farm, Woodland, Bland- ford, Dorset	1	0	0
Best, Major T. G.	East Carleton Manor, Norwich	1	0	0
†Best, Mrs. W.	Vivod, Llangollen . . . . .	..	..	..
†Best, F. C.	Vivod, Llangollen . . . . .	..	..	..
†Best, H. G.	Vivod, Llangollen . . . . .	..	..	..
†Best, Capt. W.	Vivod, Llangollen, N. Wales . . . . .	..	..	..
Best, Hon. J. W., O.B.E.	Hineknowle, Melpash, Dorset	1	0	0
Beynon, Sir J. W., Bart., C.B.E.	Merthyr House, Cardiff	1	1	0
Bide, S. and Sons	Pedigree Pig Farm, Farnham, Surrey	1	0	0

Subscriptions.

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Name	Residence	Subscriptions
		£ s. d.
Birdwood, Lt.-Col. G. C.	16, Gloucester Road, Redhill	1 0 0
Birmingham, C.	Nutscale, The Parks, Minehead	0 10 0
†Blackburn, H. P.	Donhead Hall, Salisbury	..
†Blackstone, G. M.	Blackstone & Co., Ltd., Stamford	..
Blair, D. R.	Furnwalls, Amersham, Bucks	1 0 0
Blake, Col. M. Lock	Bridge, S. Petherton	1 0 0
Bland, V. S.	The Warren, Aldbourne, Wilts	1 0 0
Blathwayt, R. W.	Dyrham Park, Chippenham	1 1 0
Blathwayt, Rev. W. E.	Dyrham Rectory, Chippenham	1 0 0
Blay, G.	New Malden, London, S.W.	1 0 0
†Bledisloe, Lord, K.B.E.	Lydney Park, Gloucester	..
Blight, G.	Tregonning, Breage, Helston	1 0 0
Blinks, A.	Alma House, Hawkhurst, Kent	1 1 0
Blinman, F. R.	Auctioneer, Farrington Gurney, Bristol	1 0 0
*Blythwood, Lord	Penrice Castle, Reynoldston, S.O., Glamorgan	2 0 0
Blythwood, Lady	Penrice Castle, Reynoldston, S.O., Glamorgan	1 0 0
Board, W. R.	Great Frampton, Llantwit Major, Cardiff	1 0 0
*†Boles, Lt.-Col. Sir Dennis F., Bart., C.B.E., D.L.	Watts House, Taunton	..
*Boles, G. F.	17th Lancers, Alival Barracks, Tidworth	2 0 0
Bolitho, R. F.	Ponsandane, Penzance	1 1 0
Bond, A. E.	Wannerton, Kidderminster	1 0 0
Bond, E. (W. Evans & Co.)	Hele, Cullompton	1 1 0
Boscawen, Rev. A. T.	Ludgvan Rectory, Long Rock, R.S.O., Cornwall	1 0 0
†Bowen-Jones, Sir J., Bart	The Woodlands, Bicton, near Shrewsbury	..
†Bowerman, Alfred	Sydney Villa, Broadclyst, Exeter	..
Bowering, R. A.	Rockhill, Keynsham	1 0 0
Braby, F. & Co. (Ltd.)	Ashton Gate Works, Bristol	1 0 0
Bradford, Thomas & Co.	Salford, Manchester	1 0 0
*Braithwaite, T. S.	Durley Hill, Keynsham, Somerset	2 0 0
Brasnett, A. W., Veterinary Surgeon	Wells	1 0 0
Brassey, Col. E., M.V.O.	Dauntsey Park, Chippenham	1 0 0
*†Brassey, H. L. C.	Apethorpe Hall, Wansford, Northants	..
†Brassey, Capt. R. B.	..	..
Brenton, W. (Ltd.)	St. Germans, Cornwall	1 0 0
Bridges, J. W.	Croydon Hall, Washford, Somerset	1 0 0
Briggs, Mrs. H.	The Grange, North Stoke, Wallingford, Berks.	1 0 0
<i>Bristol Times and Mirror,</i> Proprietors of	Bristol	1 0 0
British Oil & Cake Mills (Ltd.)	Cleveland Street, Hull	1 0 0

Subscriptions.

Name	Residence	Sub- scriptions		
		£	s.	d.
Brittan, Col. R., D.S.O.	Failand Hill, Failand, Bristol	1	0	0
Britten, Forester	Kenswick Manor, Worcester	1	0	0
†Broadmead, H.	Enmore Castle, Bridgwater	..	..	..
†Brocklehurst, H. D.	Sudeley Castle, Winchcombe	..	..	..
Brockman, F. D.	Broxmore, Herts	1	0	0
Bromwich, Mrs. M. A.	Kenfield Hall, near Canterbury	1	0	0
Broughton, B. R.	Manor Farm, North Perrott, Crewkerne	1	0	0
Brown, F. E.	1,403, Neath Road, Swansea	1	0	0
Browning, T...	Nash End Farm, Eastington, Stonehouse, Glos.	0	10	0
Browning, W.	Nash End Farm, Eastington, Stone- house, Glos.	0	10	0
†Bruford, E. J.	Nerrols, Taunton	..	..	..
Bruford, R.	Nerrols, Taunton	1	0	0
Brymer, W. J.	West Down Lodge, Winchester	1	0	0
Buchanan, W. G.	Manor House Farm, Abergavenny	1	0	0
Buck, D.	White House, Little Mill, Ponty- pool	1	0	0
Buckingham, Rev. C. L.	Bickleigh Rectory, near Tiverton	1	1	0
†Buckingham, Rev. Preb.	The Rectory, Doddyscombsleigh, Exeter, Devon	..	..	..
Buckingham, Capt. F. R.	Dishcombe, South Tawton, near Okehampton	1	0	0
Budd, Felix S.	Clarendon House, Stow Park, New- port, Mon.	1	0	0
Budd, H. C.	The Paddock, Shepton Mallet	1	0	0
Budd, J. E.	Tidebrook Manor, Wadhurst, Sussex	1	0	0
Bullocks, Miss M. A.	Metchley, Barlows Road, Edgbas- ton, Birmingham	1	1	0
Buncombe, E. H.	Ford House, Wellington, Somerset	1	1	0
Burdge, J. H.	Yatton, near Bristol	1	1	0
Burnard & Algar	Plymouth	1	0	0
Burrell, C. and Sons	St. Nicholas Works, Thetford	1	0	0
†Bush, H. G.	The Grove, Alveston, Glos.	..	..	..
Bush, Mrs. L. E.	St. Mary's, Atlantic Road, South, Weston-super-Mare	1	1	0
Busk, Mrs.	Wraxall Manor, Cattistock, Dorset	1	0	0
*Bute, The Marquis of	The Castle, Cardiff	2	0	0
Butler, E. M.	Combe Grove, Monkton Combe, Bath	1	0	0
Butler, W.	Gatcombe Farm, Flax Bourton, Bristol	1	0	0
†Buxton, Major Gerard	Tockenham Manor, Wootton Bassett, Wilts	..	..	..
Cable, Lord	Lindridge, near Teignmouth	1	1	0
Caesar, H. and J.	Knutsford, Cheshire	1	0	0
Calley, Miss	Burderop Park, Swindon	1	0	0
†Calmady-Hamlyn, Miss	Pearroc Vean, Buckfast, S. Devon	..	..	..
Calvert, Mrs. C. M. L.	Banwell Castle, Banwell, Somerset	1	0	0
Campbell, Major D., D.S.O.	Lady's Wood, Malmesbury, Wilts	1	0	0

Subscriptions.

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Name.	Residence.	Subscriptions.		
		£	s.	d.
Campbell, J.	31, St. Albans Road, Swansea . .	1	0	0
Campbell, Mrs. M. J. . .	Park House, Over Stowey, Bridgwater	1	1	0
Candy, T. C.	Woolcombe, Cattistock, Dorset . .	1	0	0
Cann, J. H.	Gothelney Manor, Bridgwater . .	1	1	0
Capel, A.	Balland Lodge, Wiveliscombe, Som.	1	1	0
Capper, Lt.-Col. A. S., D.S.O.	Langley House, Wiveliscombe, Somerset	1	1	0
Carew, C., M.P.	Collipriest, Tiverton	1	0	0
Carrington, H. B. . . .	Blacklands, Crowhurst, Sussex . .	1	0	0
†Carter, E.	East Upton, Ryde, Isle of Wight. .	..	..	..
Carter, Major G. V. . . .	Waterston Manor, Dorchester . .	1	1	0
Carter, J. & Co.	Raynes Park, London, S.W. . . .	1	0	0
Cartidge, W. T. B. . . .	Sidbury, Worcester.	1	0	0
Cartwright, Miss M. W. . .	North Curry, Taunton	1	1	0
Cartwright, T. G.	30, Beaufort Gardens, London, S.W.	1	0	0
†Cary, John	The Priory, Shepton Mallet . . . .	..	..	..
†Cary, W. H.	Junior Constitutional Club, Piccadilly, London, W.1. . . . .	..	..	..
Castleman, E. W. F. . . .	Chettle, Blandford, Dorset	1	0	0
Cater, Mrs. Bertram . . .	Bentworth Lodge, Alton, Hants . .	1	0	0
Cattybrook Brick Co. (Ld.) .	Provident Buildings, 15, Clare Street, Bristol	1	0	0
Cave, Captain A. L. . . .	Sherwood, Newton St. Cyres, Exeter	1	0	0
Cave, Sir C. H., Bart . . .	Sidbury Manor, Sidmouth	1	0	0
Cave, E. C.	Pacombe, Sidford, Sidmouth, Devon	1	0	0
Cave, Mrs. E. C.	Pacombe, Sidford, Sidmouth, Devon	1	0	0
Cecil, Lt.-Col. R. E., D.S.O. .	Passford House, Lymington, Hants.	1	0	0
Chester, J. & Co.	York House, Newmarket	1	0	0
Chichester, H.	Verbere, Willand, Cullompton . .	1	0	0
†Chick, J. H.	Wynford Eagle, Maiden Newton, Dorset . . . . .	..	..	..
†Chick, W. D.	Compton Valence, Dorchester . . .	..	..	..
Chidgey, H.	Plume of Feathers Hotel, Minehead	1	1	0
Chivers and Son	Histon, Cambridge	1	0	0
Christie, A. L.	Tapeley Park, Instow, N. Devon . .	1	1	0
Christie, Capt. J.	The Goat Farm, Ringmer, Sussex . .	1	0	0
Chubb, Sir C., Bart. . . .	Bapton Manor, Codford, Wilts . .	1	0	0
Churchill, The Viscount, G.C.V.O.	Carlton Club, Pall Mall, London, S.W.1.	1	0	0
†Churchward, F.	Hill House, Stoke Gabriel, near Totnes . . . . .	..	..	..
Clare, A. J.	Beach House, Wells	1	0	0
*Clarendon, Earl of. . . .	The Grove, Watford	2	2	0
Clark, H.	Keward House, Wells	1	0	0
Clark, H. B.	Butleigh, Glastonbury	1	0	0
*†Clark, J. J.	Goldstone Farm, Hove, Sussex (Hon. Local Sec., 1885) . . . . .	..	..	..
†Clarke, C. S.	Tracy Park, near Bath . . . . .	..	..	..

Name.	Residence.	Subscriptions.		
		£	s.	d.
Clarke, J. W.	Bridwell, Cullompton	1	0	0
Clatworthy, E.	Cutsey, Trull, Taunton	1	1	0
*Clifden, Viscount	Lanhydroc, Bodmin	2	0	0
Clinton, Lord.. ..	Heanton Satchville, Dolton, N. Devon	1	0	0
Clive, Capt. E. A. B.	Brympton, near Yeovil, Somerset	1	0	0
Cobb, R.	Watlynge, near Rochester.. ..	1	0	0
*Coldwell, Major R. C.	Spring Grove, Milverton, Somerset	2	0	0
Cole, J. J. B. .. ..	.. ..	1	0	0
Colebrook, H. J.	Fulmer Hall, Fulmer, Bucks	1	0	0
Coleridge, Hon. G. D.	The Chanter's House, Ottery St. Mary, Devon	1	0	0
Collet, Sir Mark, Bart.	St. Clare, Kemsing, Sevenoaks	1	1	0
Collins, A. H.	Manor Farm, Codford St. Peter, Wilts.	1	0	0
Collins, J. S.	St. George's Lodge, Oldfield Park, Bath	1	1	0
Colman, Sir J., Bart.	Gatton Park, Surrey	1	0	0
Colmer, Jas. (Ld.)	Union Street, Bath	1	0	0
Colville, H. K.	Bowden Hall, Gloucester	1	0	0
Cook, R.	Widhayes, Tiverton	1	0	0
Cookson, Mrs. Freville .. ..	.. ..	1	0	0
Cookson, Miss W.	Highlands, Spencers Wood, Reading	1	0	0
Coombes, E. M.	Sandydown Farm, Stockbridge, Hants.	0	10	0
Cooper, Sir G., Bart	Hursley Park, Winchester	1	0	0
Cooper, Major R. W.	Rush Court, Wallingford	1	0	0
Cope, W.	Southerndown, Glam.	1	1	0
Corbet, E. W. M.	Bute Estate Office, Cardiff	1	1	0
Corbett, S. E.	Perseverance Iron Works, Shrewsbury	1	0	0
Cornish, Dr.	Pixford, Taunton	1	0	0
†Cornwallis, Lord, C.B.E., D.L.	Linton Park, Maidstone .. ..	..	..	..
Cory, Sir Clifford J., Bart., D.L.	Llantarnam Abbey, Mon.	1	0	0
Cory-Wright, Miss B. G.	Ayot Place, Welwyn, Herts.	1	0	0
Coryton, Capt. J. T.	Pentillie Castle, St. Martin's, R.S.O.	1	0	0
†Cotterell, Sir J. R. G., Bart.	Garnons, Hereford .. ..	..	..	..
Cotton, R. W.	Baltonsborough, Glastonbury	1	0	0
Coultrip, A. W.	Norwood Manor, East Church, Kent	1	0	0
Couper, G. R. C.	The Barton, Instow, N. Devon	1	0	0
†Courage, Raymond.. ..	Shenfield Place, Brentwood, Essex .. ..	..	..	..
*Courtenay, Capt. P. D. A.	Greenlawn, Burnham-on-Sea, Somerset	2	0	0
Courthorpe, Col. Sir G. L., Bart., M.P.	Whiligh, Sussex	1	0	0
Cousins, Chas.	Jenkins, Stisted, Braintree, Essex	1	0	0
Cowie, G. A.	39, Victoria Street, Westminster, London, S.W.1.	1	0	0

Subscriptions.

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Name.	Residence.	Sub- scriptions.		
		£	s.	d.
Cox, S. V.	Pwlpen Farm, Bishpool, Newport, Mon.	0	10	0
Cox & Sons	47, City Road, Cardiff	1	0	0
Crawford, H. W.	Lloyd's Bank Chambers, Swansea	1	0	0
Criddle, A. M. B.	Worle, Weston-super-Mare	1	0	0
Cridlan, J. J.	Maisemore Park, Gloucester	1	0	0
Cripps, Major F. W., D.S.O.	Ampney Park, Cirencester.	1	0	0
Croker, W. J.	Grapnel Farm, Dinder, Wells	1	0	0
Crompton's Pure Salt Brick Co. (Ld.)	255, Chapel Street, Salford	1	0	0
*Cross, Carlton	Wyke Hall, Gillingham	2	0	0
Cross, G.	Smart's Hill House, Penshurst, Kent	1	0	0
Crowther, F. C. (Co-op. Whole- sale Society)	1, Balloon Street, Manchester	1	0	0
Crumpler, J.	Longlands, North Coker, Yeovil	1	1	0
Crutchley, P. E.	Limminghill Lodge, Ascot.	1	0	0
Cumber, W. J.	Theale, Berks	1	0	0
Cuming, Edwin J.	Langhill, Moretonhampstead, Devon	1	0	0
Cundall, H. M., I.S.O., F.S.A.	4, Marchmont Gardens, Richmond Hill, Surrey	1	0	0
†Curre, E.	Itton Court, Chepstow . . . . .	..	..	..
Currie, L.	Minley Manor, Farnborough, Hants.	1	0	0
Dalrymple, Major F. B.	Bartley Lodge, Cadnam, Hants	1	0	0
†Daniel, H. T.	The Red House, Cannington, Bridgwater . . . . .	..	..	..
Darby, E.	Liscombe, Dulverton	1	0	0
†Darell, D.	Hillfield House, Stoke Fleming, near Dartmouth . . . . .	..	..	..
Davey, Sleep & Co. (Ld.)	Excelsior Plough Works, Plymouth	1	0	0
†Davey, T. R.	Wraxall Court, near Bristol . . . . .	..	..	..
David & David	Old Bank Chambers, 27, High Street, Cardiff	1	0	0
Davies, D.	"Porth Pean," Queen's Road, Sketty, Swansea	1	1	0
*†Davies, Major G. F., M.P.	Leigh House, Chard, Somerset . . . . .	..	..	..
Davies, T. W.	The Cefn, Pontypridd	1	0	0
†Davis, H. J.	Sutton Montis, Sparkford, S.O., Somerset . . . . .	..	..	..
Daw, J. E.	4, Louisa Terrace, Exmouth	1	1	0
Dawney, Major-Gen. G. F.	Longparish House, Whitchurch, Hants.	1	0	0
Dawson, F. T.	High Street, Bath	1	1	0
Dawson, Miss N.	Holne Park, Ashburton, S. Devon	1	0	0
Dav & Sons (Ld.)	Crewe	1	0	0
*†Debenham, E. R. . . . .	.. . . .	..	..	..
†Delme-Radcliffe, Lt.-Col. A., D.S.O.	Shenley House, Headcorn, Kent . . . . .	..	..	..
De Rothschild, Mrs. L.	Exbury, Southampton	1	1	0

Name.	Residence.	Subscriptions.		
		£	s.	d.
Dening & Co.	Chard, Somerset	1	0	0
Denning, R. J.	Little Ashwell Farm, Ilminster ..	1	0	0
Dennis, S.	Latton, Cricklade, Wilts	1	0	0
†Devas, H. G.	Ightham Warren, Sevenoaks, Kent ..	..	..	..
Devenish, H. N.	Little Dunford, Salisbury	1	0	0
Diabolo Separators (Ld.) ..	31-35, Bevenden Street, Hoxton, London, N.	1	0	0
Dickinson, G.	The Mount, Cork-in-Cartmell	1	0	0
Dickinson, W. F.	Kingweston, Taunton	1	0	0
Dickson & Robinson	Cathedral Street, Manchester	1	1	0
*Digby, Capt., The Lord, D.S.O., M.C. (Coldstream Guards)	Minterne, Cerne Abbas	2	0	0
Digby, Major F. J. B. Wingfield, D.S.O.	Sherborne	1	0	0
Dinam Estates Co.	The Offices, Llandinam, Montgomery	1	0	0
†Dixon, Oliver	Crescent Road, Reading .. ..	..	..	..
†Dobson, H. V.	Bath and County Club, Bath .. ..	..	..	..
Dormer, Capt. C. W. C. ..	Rousham, Oxford	1	0	0
*Douglas, J.	Hanham Road, Kingswood, near Bristol	2	0	0
Down, H. E.	Middle Farm, Dinder, Wells	1	0	0
Drew W. (Harrison, McGregor & Co.)	Albion Iron Works, Leigh, Lancs. ..	1	0	0
Drummond, Col. F. D. W., C.B.E.	Cawdor Estate Office, Carmarthen ..	1	0	0
Duck, W. G.	Neadwood, Christon, near Exeter ..	1	1	0
Duckham, A.	Rooks Hill, Bitchett Green, near Sevenoaks	1	0	0
Duckworth, Major A. C. ..	Orchardleigh Park, Frome	1	0	0
Dugdale, Major J. G. ..	The Abbey, Cirencester	1	0	0
Dunkel, W.	Fernhill Park, Windsor Forest	1	0	0
Dunlop, I. M.	Avonhurst, Sneyd Park, Bristol	1	0	0
*Durand, Lady .. ..	.. ..	2	0	0
Eagle Range and Gas Stove Company (Ld.)	Catherine St., Aston, Birmingham ..	1	0	0
*Earl, H. F.	Biddenden, Kent	2	0	0
*†Eastwood, J. E. .. ..	.. ..	..	..	..
Eaton, G. T.	Thurston Hall, Framfield, Sussex ..	1	0	0
Economic Fencing Company (Ld.) (Dulcken, H. E.) ..	Billiter House, Billiter Street, London, E.C.3.	1	0	0
Eden, R. H. H.	Heytesbury, Wilts.	1	0	0
†Edmondson, A.	Woodclose, Silverdale, Lancashire ..	..	..	..
Edwards, A. P.	Gog's House, Wedmore, Somerset ..	1	1	0
Edwards, E. W.	Pednor House, Chesham, Berks.	1	1	0
Edwards, R. G.	Burrington Vicarage, Bristol	1	1	0
Edwards, W. H. G.	Butcombe Court, Wrington	1	0	0

Subscriptions.

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Name.	Residence.	Subscriptions.
		£ s. d.
*Edwards-Ker, Lieut.-Col. D. R., O.B.E., M.A. ..	Principal, Seale Hayne Agricultural College, Newton Abbot ..	2 0 0
Eldridge, Pope & Co. ..	Dorchester	1 0 0
Elmhurst Farming and Trading Co. (Ld.)	Elmhurst Farm, Slinfold, Sussex ..	1 0 0
Elton, B. A.	Langford, near Bristol	1 0 0
Elwes, Lt.-Col. H. C., D.S.O., M.V.O.	Colesborne, Cheltenham	1 1 0
Elwes, P. F. C. .. ..	.. ..	1 0 0
Errington, R.	Victoria Mills, Sunderland	1 0 0
Erskine, Lord, M.P. ..	Charlton, near Bristol	1 0 0
Esdaile, W. C. H.	Cothelstone House, Taunton ..	1 0 0
Eustice, G. H.	Bezurrell, Gwinear, Hayle, Cornwall	1 0 0
Evans, H. M. Glynn ..	Plasissa, Llangennech, Carmarthenshire	1 0 0
Evans, R. P., J.P.	Woodhatch House, Reigate, Surrey	1 0 0
†Evan-Thomas, Commander A.	Caerwnnon, Builth Wells, R.S.O. ..	.. ..
Evans, T. .. ..	.. ..	1 0 0
Evan-Thomas, Admiral Sir Hugh	Charlton House, Shaftesbury ..	1 0 0
†Eve, Mr. Justice	Royal Courts of Justice, London, W.C.2 .. ..	.. ..
Evelyn, Mrs.	Wotton House, near Dorking ..	1 0 0
Everard, W. L., M.P. ..	Ratcliffe Hall, Leicester	1 0 0
Ezra, E.	Lock, Partridge Green, Sussex ..	1 0 0
*†Falmouth, Viscount ..	Tregothnan, Truro .. ..	.. ..
Fane, Major N. H.	Boyton Manor, Codford, Wilts ..	1 0 0
†Farwell, Major E. W. ..	Hylton Estate Office, Kilmersdon, Bath .. ..	.. ..
Fastnut (Ld.)	17, Newnham Road, Wood Green, London, N.22	1 1 0
Fauvel-Phillips, Major H. ..	.. ..	1 0 0
Fenwick, M.	Abbotswood, Stow-on-the-Wold ..	1 1 0
*Ferguson-Davies, Sir W. J., Bt.	Creedy Park, Crediton	2 0 0
Ferrand, G. F.	Clanville Lodge, Andover, Hants.	1 0 0
Ferriman, R. F.	Epping Green Farm, Little Berkhamsted, near Herts	1 0 0
Ferriman, W. R.	Bower Ashton, Bristol	1 0 0
Fewtrell, O. J.	Estate Office, Wells	1 0 0
Firth, Capt. C. P. L. ..	Compton Durville Manor, South Petherton, Somerset	1 0 0
Fison, J. & Co.	Ipswich	1 0 0
*Fitzgerald, Lady	Buckland, Farington, Berks. ..	2 0 0
FitzGerald, Mrs. M. M. ..	Marsden Manor, Cirencester ..	1 0 0
Fitzwalter, Lord	Goodnestone, Dover	1 0 0

Name.	Residence.	Subscriptions.		
		£	s.	d.
Fitzwilliams, Col. E. C. L., C.M.G.	Brynteifi, Pentrecourt, Llandyssul	1	1	0
Fleming, Mrs. P.	Grendon Hall, Aylesbury, Bucks.	1	0	0
Flemming, Lt.-Col. Gordon . .	Norton Beauchamp, Kewstoke, Somerset	1	1	0
Fletcher, Capt. A. M. T. . . .	Margam Park, Port Talbot . . .	1	0	0
Flint, G. Gordon	High Firs, Chandlers Cross, Croxley Green, Herts.	1	0	0
*†Folkestone, Viscount	Longford Castle, Salisbury . . .	..	..	..
Ford-Tilley, G.	Alstone Court, Huntspill, Brid- water	1	1	0
*†Forester, Capt. F. W.	Saxilbye Park, Melton Mowbray . .	..	..	..
Forshaw, W. H.	Slythehurst, Ewhurst, Guildford . .	1	0	0
Fortune, R.	Newhouse, Cranleigh, Surrey . .	1	0	0
†Fortescue, J. B.	Boconnoc, Lostwithiel, Cornwall . .	..	..	..
Four Oaks Spraying Machine Co. (Ld.)	Four Oaks Works, Sutton Cold- field	1	0	0
Fowler & de la Perrelle	Porter's Lane, Southampton . . .	1	0	0
Fowler, John & Co. (Leeds) Ld.	Leeds	1	0	0
Fox, Brothers & Co.	Wellington, Somerset	1	1	0
Fox, C. L.	Rumwell Hall, Taunton	1	0	0
Fox, Mrs. A.	Brislington House, near Bristol . .	1	0	0
Fox, J. H.	Robins Close, Wellington, Somerset	1	0	0
Fox, R. A.	Yate House, Yate, Glos.	1	1	0
Foxcroft, C. T., M.P.	Hinton Charterhouse, Bath	1	1	0
Francois, F. S.	Wilkinthroop, Templecombe . . .	1	0	0
French, W. T. & Son	St. Mary Street, Ladywood, Bir- mingham	1	0	0
Frost, E. J.	Fountain Farm, Dulcote, Wells . . .	1	1	0
Fry, A. M.	8, Zion Hill, Clifton, Bristol . . .	1	1	0
Fry, Cecil	Grove House, Frenchay, Bristol . .	1	0	0
Fry, C. A. H.	Ashton Lodge, Long Ashton, Bristol	1	0	0
Fry, H. A.	Monmouth Place, Bath	1	1	0
*Fry, J. S. & Son (Ld.)	Union Street, Bristol	2	2	0
Fryer, W. J.	Holme Park, Sonning, Berks . . .	1	1	0
†Fuller, G. Pargiter	Neston Park, Corsham . . . . .	..	..	..
*Fuller, Major R. F.	Great Chalfield, Melksham, Wilts..	2	0	0
Fuller, Mrs. R. F.	Great Chalfield, Melksham, Wilts..	1	0	0
Fuller, S. & A.	Bath	1	0	0
Fursdon, E. S.	The Elms, Alphington	1	1	0
Gale, G.	The Grove, Winterbourne, near Bristol	1	0	0
Galloway, J.	Holmsted Manor, Cuckfield, Sussex	1	1	0
Gane, P. J.	Higher Rooke Farm, Butleigh, Glastonbury	1	0	0
Gantlett, W. R. & Son	Manor Farm, Fairfield, Glos. . . .	1	1	0
Gardiner, Sons & Co.	Nelson Street, Bristol	1	1	0
Garne, W.	Aldsworth, Northleach	1	1	0
Garne, W. T.	Aldsworth, Northleach	1	1	0
Garnett, W.	Backwell Hill House, West Town., R.S.O., Somerset	1	0	0

Name.	Residence.	Subscriptions.	
		£	s. d.
Garton, J. A.	Pylle Manor, Shepton Mallet, Somerset	1	0 0
Genge, M.	Stop Farm, Fonthill Gifford, Tisbury	1	1 0
Gibbins, T.	Glynfelin, Neath	1	0 0
Gibbons, P. F., J.P.	Keynsham	1	1 0
†Gibbs, Major A. H.	Pytte, Clyst St. George, Exeter		
†Gibbs, Mrs.	Pytte, Clyst St. George, Exeter		
*†Gibbs, Col. The Right Hon.			
George A., M.P.	Tyntesfield, Bristol		
†Gibbs, H. M.	Barrow Court, Flax Bourton, Bristol		
Gibbs, Lt.-Col. W. O.	Home Farm, Barrow Gurney	1	0 0
†Gibbs, Mrs. W. O.	Home Farm, Barrow Gurney		
Gibson, J. T.	Warren House, Wrington	1	1 0
Gifford, G.	Lyde Green, Pucklechurch, Bristol	0	10 0
Gisborne, Col. L., C.M.G.	Lingen Hall, Brampton Bryan	1	0 0
†Gladstone, J.	Bowden Park, Chippenham		
Glanely, Lord	Lackham, Lacock, Wilts.	1	0 0
Glanville, F.	Poplar Farm, Westbury-sub-Mendip, Wells	1	0 0
Glencross, T.	The Paddocks, Stoke Gifford	1	1 0
Glover, J. H.	Cornwood, S. Devon	1	0 0
Glyn, Capt. Sir R. F., Bart.		1	0 0
Godfrey, J. B.	Downside Farm, Shepton Mallet	1	0 0
†Godman, C. B.	Woldringfold, Horsham		
Godman, J.	The Raswells, Hascombe, Godalming	1	0 0
Godwin, Warren and Co., (Ld.)	140, Redcliffe Street, Bristol	1	0 0
Goemans, H. E.	Homewood Lodge, Chislehurst, Kent	1	1 0
Goodchild, G. A.	The Oak House, Great Yeldham, Essex	1	1 0
Goodman, A. & Sons	3, Hammett Street, Taunton, and Broad St. House, London, E.C.	1	0 0
*Gordon, Major R.G.S., M.C.	Langton House, Blandford	2	0 0
Gordon, G. H.	The Barn House, Sherborne	1	0 0
†Gorringe, Hugh	Kingston-by-Sea, Brighton		
Gosling, R. H.	Hawthorne Hill, Bracknell	1	0 0
Graham-Clarke, Capt. J. E. H.	Procester Manor, Stonehouse, Glos.	1	0 0
Grainger, Lady Muriel Liddell	Ayton Castle, Berwickshire	1	0 0
Grant-Ives, C. E.	Bradden House, Towcester, Northamptonshire	1	0 0
Grant, W. J.	42, Llanthewy Rd., Newport, Mon.	1	0 0
Gray, R.	The Manor, Lechlade, Glos.	1	0 0
Greaves, R. M.	Wern, Portmadoc, North Wales	1	0 0
Green, H.	Tanyard Farm, Oakhill, Bath	1	0 0
†Green, Major H. L.	The Hall, Poulton Lanulyn, Bromborough, Cheshire		
†Greenall, Mrs. C. E.	The Manor, Carlton Scroop, Grantham		

Name.	Residence.	Sub- scriptions.		
		£	s.	d.
†Greenall, Sir G., Bart. ..	Walton Hall, Warrington .. ..	..	..	..
Greenwell, Sir B., Bart. ..	Marden Park, Woldingham, Surrey ..	1	0	0
Greenwood, J. C.	Westfield Farm, Bloomfield Road, Bath	1	0	0
Gregory, W. & Co.	Wellington, Somerset	1	1	0
†Guest, Miss	Inwood, Templecombe .. ..	..	..	..
*Guilford, Earl of	Waldershare Park, Dover	2	0	0
Guille, H. C. de Stevens ..	Westleigh House, Westleigh, near Bideford, N. Devon	1	0	0
Gullick, W. F., F.R.H.S. ..	Waterloo Nursery, Salisbury	1	0	0
Gunther, C. E.	Tongswood, Hawkhurst, Kent	1	0	0
*Hambledon, Viscount ..	Greenlands, Henley-on-Thames .. .	5	0	0
Hambro, Sir Eric, K.B.E. ..	Milton Abbey, Blandford, Dorset ..	1	0	0
Hambro, H. C.	The Lodge, Tadworth, Surrey	1	0	0
Hancock, C. L.	The Manor House, Cothelstone, Taunton	1	1	0
Hancock, F. C.	Ford House, Wiveliscombe, Som. ..	1	1	0
Hancock, H. C.	The Court, Milverton, Taunton	1	0	0
Hancock, P. F.	Quarry Cleeve, Wiveliscombe, Somerset	1	1	0
Hancock, Mrs. R. D.	Halse, Taunton	1	0	0
Hancock & Stinchcomb ..	69, Queen Square, Bristol	1	0	0
Harbottle, E. H.	Topsham, Devon	1	0	0
Harding, E. G.	Foxcote, Grittleton, Chippenham ..	1	0	0
Harditch, J. A.	Shipway Gate Farm, Portbury, Bristol	1	0	0
Hardwick, A.	Easton-in-Gordano, Bristol	1	0	0
Hare, Lady K. F.	Brokenhurst Park, Hants	1	0	0
Hargreaves, J.	The Priory, Royston, Herts	1	0	0
Harris, H.	Singleton Park Farm, Sketty, S.O., Glam.	1	0	0
Harris, J.	Westland Road, Kentisbury, North Devon	1	0	0
Harrison, D.	The Grove, Tenby	1	0	0
Harrison, McGregor & Co. ..	Leigh, Lancashire	1	0	0
†Harrison, Lt.-Col. W. E. ..	Wychmor Park, Burton-on-Trent ..	..	..	..
Harrison, T. D.	Albion Iron Works, Leigh, Lancs. ..	1	0	0
Hart, A.	"Risingholme," Heathfield Tower, Sussex	1	0	0
Hartley, Major H. B. ..	Tytherington, Heytesbury, Wilts. ..	1	0	0
Haward, T. W.	Grove House, West Derby, Liverpool	1	1	0
Hawker, Capt. H. G.	Strode, Ermington, Ivybridge	1	0	0
Hawkes & Son	32, East Street, Taunton	1	1	0
†Haydon, Lt.-Col. W. H. ..	Maidford, Malmesbury, Wilts .. ..	..	..	..
Hayes-Sadler, Mrs. A. F. ..	Little Hallingbury Park, Bishop's Stortford, Essex	1	0	0
Hayes, F. J.	West Pennard, Glastonbury	1	0	0
Haynes, R. P.	Delves Green Farm, Wednesbury ..	1	0	0

Subscriptions.

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Name.	Residence.	Sub- scriptions		
		£	s.	d.
Hayward, Mrs. Victor ..	Bookham Grove, Bookham, Surrey	1	1	0
Heasman, Miss Dinah ..	Southwick, East Grinstead, Sussex	1	0	0
Heathcoat-Amory, Sir I. M., Bart. ..	Hensleigh, Tiverton, Devon ..	1	0	0
Helyar, Comm. K. C., D.S.O.	Poundesford, Taunton ..	1	0	0
*†Henderson, Lieut.-Col. Hon. H. G. ..	Buscot Park, Faringdon, Berks. ..	..	..	..
Henderson, P.C. (Ld.) ..	West Bank Works, Barking, London	1	0	0
Heneage-Vivian, Rear Admiral Walter ..	Parc le Breos, Penmaen, Glam. ..	1	0	0
Henry, Lt.-Col. F. ..	Elmstree, Tetbury ..	1	0	0
Heseltine, Lt.-Col. J. E. N. . .	Hawking Down Farm, Hindon, Salisbury ..	1	0	0
Hesse, F. W. . .	Weston Hill, Weston Park, Bath	1	0	0
†Hewitt, G. Southby ..	Day, Son & Hewitt, 22, Dorset Street, London, W.1 ..	..	..	..
*Hewthorn & Co. ..	7, Lambs Passage, Chiswell Street, London, E.C.1 ..	2	0	0
Hicks-Beach, Lady Susan	Coln S. Aldwyn, Fairford, Glos. ..	1	0	0
Higgins, B. ..	Millhouse Farm, Evercreech ..	0	10	0
Hignett, G. ..	Hodshill, Southstoke, Bath ..	1	1	0
Hignett, Mrs. G. ..	Hodshill, Southstoke, Bath ..	1	1	0
†Hill, B. H. ..	Uphill, Weston-super-Mare ..	..	..	..
Hill, H. ..	Paulton, near Bristol ..	1	1	0
Hill, C. L. ..	Harptree Court, East Harptree, near Bristol ..	1	0	0
Hill, H. W. ..	High Street, Newmarket ..	1	0	0
Hill, S. ..	Langford House, Churchill, Bristol	1	0	0
Hill, Major V. T. ..	Woodspring Priory, near Weston- super-Mare ..	1	1	0
Hill, Mrs. V. T. . .	Woodspring Priory, near Weston- super-Mare ..	1	1	0
Hill, W. H. ..	Bushbury Hall, Wolverhampton ..	1	0	0
†Hinckes, Captain R. T. ..	Mansel Court, Mansel Lacey, Hereford ..	..	..	..
Hippisley & Sons ..	Wells, Somerset ..	1	0	0
Hippisley, R. J. B. ..	Ston Easton Park, Bath ..	1	0	0
Hiscock, Victor ..	France Farm, Blandford ..	1	1	0
†Hoare, Sir H. H. A., Bart	Stourhead, Zeals, S.O., Wilts ..	..	..	..
Hobhouse, A. L. ..	Hadspen House, Castle Cary, Somt.	1	0	0
†Hobhouse, R. A. ..	Pondmead, Oakhill, Somerset ..	..	..	..
*Hobhouse, Rt.-Hon. H.	Hadspen House, Castle Cary ..	2	0	0
†Hoddinot, S. ..	Dean Vale, West Cranmore, Shepton Mallet ..	..	..	..
Hodgson, W. F. S. ..	Morebath, Bampton, Devon ..	1	1	0
Holbech, R. H. A. ..	Farnborough Grange, Banbury ..	1	0	0
Holford, Mrs. Gwynne ..	.. ..	1	0	0
Holland, J. H. ..	Peene House, Newington, Folkestone	1	0	0
Holmes, Mrs. F. J. ..	Amberfield House, Slinfold ..	1	1	0

Name.	Residence.	Subscriptions		
		£	s.	d.
Holt Needham, O. N. ..	Burdocks, Fairford, Gloucester ..	1	0	0
Holt, Thomas G. ..	North Dean House, Hughenden, Bucks	1	0	0
Hood, Capt. A. O. ..	Buckhill House, Calne	1	0	0
Hooley, Terah F. ..	Dry Drayton, Cambridge	1	0	0
Hooper, Bros. ..	Newburgh, Winfrith, Dorchester ..	1	0	0
†Horner, Sir J. F. Fortescue	Mells Park, Frome .. ..	..	..	..
Holt, J. F. ..	Bickley Farm, Hanham, nr. Bristol	1	0	0
Horton-Starkie, Rev. Preb. Le G. G. ..	Wellow Vicarage, Bath	1	1	0
Hosking, W. L. ..	Fentengollan, Probus, Cornwall ..	1	0	0
Hoskyns, H. W. W. ..	The Manor, North Perrott, Crewkerne	1	0	0
Hotson, H. S. (Wolseley Sheep Shearing Mach. Co. (Ld.) ..	Alma Street, Birmingham ..	1	0	0
Howard, A. H. S. ..	Thornbury Castle, Gloucester ..	1	0	0
Howard, J. & F. ..	Bedford	1	0	0
†Hughes, A. E. ..	The Laurels, Bargates, Leominster	..	..	..
Humphrey, L. J. ..	Sardinia House, Kingsway, London, W.C.2	1	0	0
Humphries, Sir Sidney, J.P.	Eastfield Lodge, Westbury-on- Trym, Bristol	1	1	0
Hunloke, Mrs. P. ..	Cowbridge, Malmesbury, Wilts ..	1	1	0
Huntington, Major A. W. ..	Wellesbourne House, Warwick ..	1	0	0
†Hurle, J. C. ..	Kilve Curt, Bridgwater .. ..	..	..	..
Hurle, Major J. A. Cooke ..	.. ..	1	1	0
Hurst & Son ..	152, Houndsditch, London, E.1 ..	1	0	0
*Hussey, A. H. ..	Maincombe, Crewkerne	2	0	0
Huttenback, Capt. H., R.H.A.	1, Lenmox Gardens, London, S.W.1	1	0	0
†Hylton, Lord ..	Charlton, near Radstock .. ..	..	..	..
*Ilchester, Earl of ..	Melbury, Dorchester	2	2	0
Iles, D. ..	Lyegrove, Badminton	1	0	0
Imbert-Terry, F. B. ..	Blue Hayes, Broadclyst, Devon ..	1	0	0
Imbert-Terry, Mrs. L. ..	Blue Hayes, Broadclyst, Devon ..	1	0	0
Imperial Live Stock Insur- ance Co. ..	27, Cavendish Sq., London, W.1 ..	1	0	0
International Harvester Co. (Ld.) ..	80, Finsbury Pavement, London, E.C.	1	0	0
*Ismay, J. H. ..	Iwerne Minster, Blandford, Dorset	2	0	0
Jackman, Percy ..	Pulteney Hotel, Bath	1	0	0
Jackson, Sir Henry Mather ..	Llantillo Court, Abergavenny ..	1	0	0
James, A. ..	Totterdown, Bristol	1	0	0
James, Mark ..	Home Farm, Ston Easton, Bath ..	1	0	0
Jefferies, Evan ..	Glebe Farm, Windrush, Burford, Oxon	1	0	0
Jenkins, D. ..	Boverton Place, Llantwit Major, Glam.	1	0	0

Subscriptions.

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Name.	Residence.	Sub- scriptions.		
		£	s.	d.
Jenkins, E.	c/o F. Capern, Lewin's Mead, Bristol	1	0	0
Jenkins, T. E.	Kilvrough Home Farm, Park Mill, S.O., Glamorgan	1	0	0
Jenkins, Captain Vaughan	St. Winifreds, Combe Down, Bath	1	0	0
Jenks, Shirley H.	Elmore, Thorncombe, near Chard	1	1	0
†Jervoise, Mrs. B. A. L.	Herriard Park, Basingstoke . . . . .	..	..	..
Jervoise, Major F. H. T.	Herriard Park, Basingstoke	1	1	0
Jeyes' Sanitary Compounds Company	Cannon Street, London, E.C.4	1	0	0
John, W. Llewellyn	Penmount, Llanelly, Carm.	1	1	0
Johns, W. B.	Clinton Estate Office, Dolton, N. Devon	1	1	0
Johnstone, F. E.	Small Hythe, Tenterden, Kent	1	0	0
Johnson, L. O.	Peppers, Ashurst, Steyning, Sussex	1	0	0
†Jones, H. G.	Downford, Mayfield, Sussex . . . . .	..	..	..
Jones, K. S.	Norton House, West Cross, Swansea	1	0	0
Jones, T. S.	Frondez, Radyr, Cardiff	1	0	0
Jones & Son	Tolbury Mills, Bruton	1	1	0
Joyce, J.	Preston, Milverton, Somerset	1	0	0
Joyce, Rev. W. W.	Charles Parsonage, South Molton	1	0	0
Keen, R.	Firland Farm, Westbury-sub- Mendip, Wells	1	0	0
Kekewich, Sir T. H., Bart.	Peamore, Exeter	1	0	0
Kell & Co.	Gloucester	1	0	0
Kemble, Miss M. I.	Wraxall Manor, Dorchester	1	1	0
†Kemp, L. J.	Maer, Exmouth . . . . .	..	..	..
Kemp-Welsh, Miss B.	147, Victoria Street, London, S.W.	1	0	0
Kendall, W. G.	Yarner, Darlington, Totnes, S. Devon	1	0	0
Kennaway, Sir J., Bart.	Escot, Ottery St. Mary	1	0	0
Kennard, E.	Preston House, near Basingstoke..	1	0	0
Kenyon-Slaney, Major, M.P.	Bridestow, Devon	1	0	0
Kerry Estates (Ld.)	Estate Office, Warren House, Stanmore, Middlesex	1	0	0
*Keyser, C. E.	Aldermaston Court, Reading	2	0	0
Kidner, S., O.B.E.	Bickley, Milverton, near Taunton	1	0	0
Kidston, G.	Hazlebury, Box, Wilts	1	0	0
Killen, C. J.	Middle Farm, West Horrington, Wells	1	0	0
Killen, J. J.	Rood Farm, Butleigh, Glastonbury	1	0	0
King, Mrs. A. C.	Braishfield Pony Stud, Romsey, Hants	1	0	0
King, E. W.	Chew Magna, near Bristol	1	0	0
King & Sons, R.	Milsom Street, Bath	1	1	0
Kingwell, H. J.	Bow Grange, Totnes	1	0	0
Knight-Bruce, R.	The Sanctuary, Shobrooke, Crediton	1	0	0
Knight, S. J.	Buckingham Lodge, Keynsham, Bristol	1	0	0

Name	Residence	Subscriptions		
		£	s.	d.
†Knollys, C. R.	Richmond Lodge, Richmond Hill, Bath . . . . .	..	..	..
Knox, E.	7, Raby Place, Bath	1	1	0
†Kruise, W.	St. Blazey, Par Station, Cornwall . . . . .	..	..	..
†Lake, C.	Glenthorne, Gravesend . . . . .	..	..	..
Lake, H.	Combe Lancey, Crediton, Devon	1	0	0
Lance, Brig.-Gen.	Westfield, Wrotham, Kent	1	0	0
Lander, J.	Lydney Park, Gloucester	1	1	0
Langford, E. W. (Ld.)	Hereford	1	0	0
*Lansdowne, Marquis of	Bowood, Calne	2	0	0
Lawes, Algernon (Ld.)	203, Hornsey Road, London, N.7.	1	1	0
Lawrence, Lt.-Col. the Hon.G.	Hill Farm, Oaksey, Wilts	1	0	0
Lawrence, R.	Rull, Cullompton, Devon	1	0	0
Lawton, W.	Kindatt, Penn Lea Road, Bath	1	0	0
Leeder, E. H.	Mount Pleasant House, Swansea	1	0	0
*Leney, A.	Salts Place, Loose, Kent	2	0	0
Leverton, W. A.	Columb John Farm, Stoke Canon, Exeter	1	0	0
Lansdowne, G. E.	Hock Pitt Barton, Over Stowey	1	1	0
Las Casas, L. de	Elliscombe House, Wincanton	1	1	0
Las Casas, Mrs. de	Elliscombe House, Wincanton	1	1	0
Levy, Sir Maurice, Bart., J.P.	Great Glen House, Great Glen, Leicester	1	1	0
Lewis, Col. E.	23, Bathwick Hill, Bath	1	0	0
Lewisham, Lord	Godmersham Park, Canterbury	1	0	0
†Ley, John Henry	Trehill, Exeter . . . . .	..	..	..
Liddell, Capt. C. O.	Shire Newton Hall, Chepstow	1	1	0
Lindley, Hon. Walter Barry	Corpe House, Taunton	1	0	0
Lindley, Hon. Mrs. Walter	Corpe House, Taunton	1	0	0
Lipscomb, Godfrey	Claverton Lodge, Bathwick Hill, Bath	1	0	0
Lister, R. A. & Co. (Ld.)	Dursley, Glos.	1	1	0
†Lister, J. J.	Falkland House, Lewes . . . . .	..	..	..
Little, Major A. C.	Upton House, Tetbury, Glos.	1	0	0
Littleton, W. J.	Holland Barton, Bodmin, Cornwall	1	0	0
Llewellyn, Sir David R., Bart.	The Court, St. Fagans, Cardiff	1	0	0
Llewellyn, Capt. Llewellyn T. E.	Hackwood, Basingstoke	1	0	0
Llewellyn, Griffiths R. P.	Combend, Elkestone, Colesborne, S.O.	1	0	0
*Llewellyn, Sir J. T. D., Bart.	Penllergaer, Swansea	2	2	0
Lloyd, A. W.	Whitechapel Manor, South Molton	1	1	0
Lock, Brig.-Genl., F. R. E.	Wakehill, nr. Ilminster, Somerset	1	1	0
Long, W. F.	Broadway House, Chilcompton, near Bath	1	0	0
Longrigg, G. E.	Weston Lea, Bath	1	0	0
Lopes, Sir H. Y. Buller, Bart.	Maristow, Roborough, Devon	1	0	0
Lord Wandsworth Agricultural College	Long Sutton, Winchfield, Hants	1	1	0

Subscriptions.

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Name.	Residence.	Sub- scriptions.		
		£	s.	d.
Loxton, A. H.	Croft Farm, Westbury-sub-Mendip, Wells	1	0	0
Luckes, S.	Bridge Street, Taunton	1	1	0
Luckock, E. H. M.	Sidbrook House, Taunton	1	0	0
Ludlow, Lady	Luton Hoo, Luton	1	0	0
*Luff, J. Purnell	The Towers, Evercreech, Bath	2	2	0
Lupton, Miss A.	Chalmington, Dorchester	1	1	0
†Lupton, N. D.	Chalmington, Cattistock, Dorset			
†Lutley, J. H.	Brockhampton, Worcester			
Luttrell, Major A. C.	Lea Combe House, Axminster	1	1	0
Luttrell, Capt. A. F.	Court House, East Quantoxhead, Bridgwater	1	0	0
Luttrell, Claude M. F.	Ben Mead, Box, Wilts	1	1	0
Luttrell, G. F.	Dunster Castle, Somerset	1	1	0
*Lymington, Viscount	Old Manor Farm, Ellisfield, Basingstoke	2	0	0
Lyons, J.	32, Great Tower Street, London	1	0	0
*Lysaght, G. L.	Chapel Cleeve, Taunton	2	0	0
MacAndrew, E. G.	Pallinghurst, Baynards, Horsham	1	0	0
Macdonald, H. L. S.	Avondale, Bathford, Bath	1	0	0
Macintosh, J.,	The University College, Reading	1	0	0
Magor R.	Springfield Lyons, Chelmsford	1	0	0
Magor, Mrs. R.	Springfield Lyons, Chelmsford	1	0	0
Maitland, A.	Thornleigh, Vicars Cross, near Chester	1	0	0
Major, H. J. & C. (Ld.)	Bridgwater	1	0	0
Malet, Col. Sir Harry	Wilbury, Newton Tony, Salisbury	1	0	0
†Mansell, A. E.	Mount Vernon, Melton Mowbray, Tasmania			
Mansfield, T.	Winterbourne Court, Winterbourne Bristol	1	1	0
Mappin & Webb (Ld.)	158, Oxford Street, London, W.1	1	1	0
Mapstone, R. G.	Glastonbury	1	0	0
Marfell, R. H.	Great House Farm, Llangeview, Usk	1	1	0
Marshall, H. C., C.C.	Wrington, Somerset	1	0	0
Marshall, L. H.	Chippenham	1	0	0
Marshall, Sons & Co. (Ld.)	Britannia Iron Works Gainsborough	1	0	0
Martin, Col.	Bishops Caundle, Sherborne	1	0	0
Martin, Mrs.	Bishops Caundle, Sherborne	1	0	0
Martin, J.	Thorverton, S.R.O., Devon	1	0	0
Martin, T. L.	Ashe Warren, near Basingstoke	1	0	0
Martin, W. P.	Colleton, near Chulmleigh	1	0	0
Martineau, H. M.	The Lodge, Holyport, Berks	1	0	0
Martineau, P. E.	Hillside, Cleveland Walk, Bath	1	0	0
Martyn, G.	Tremeddan, Liskeard, Cornwall	1	1	0
Mason, F. F.	Swansea	1	0	0
Massey-Harris Co. (Ld.), (G. W. Dawkins, General Manager)	54 & 55, Bunhill Row, London, E.C.1	1	0	0

Name.	Residence.	Subscriptions.		
		£	s.	d.
Masters, A.	Kyneton, Thornbury, Glos.	1	0	0
Matthews, H.	Winterbourne, Bristol	1	0	0
*Matthew, R. W.	Adsbrough House, nr. Taunton	2	2	0
Maunder, J.	Kingweston, Somerton	1	0	0
Maunder, L. T.	Butleigh, Glastonbury	1	0	0
Mawby, T.	Merryweather & Co., Greenwich, London	1	1	0
May, E. Howard, c/o May and Hassell (Ld.)	Baltic Wharf, Bristol	1	0	0
Meade-King, W. O. E.	Walford, Taunton	1	1	0
Meddick, William G.	Fairfield Arms, Fairfield Park, Bath	1	0	0
Membery, R.	37, Southgate Street, Bath	1	0	0
Merry, Richard	Goulds, Broadclyst, Exeter	0	10	0
Merryweather & Sons, (Ld.)	Greenwich Road, London, S.E.10.	1	1	0
Merson, T. H.	Faringdon, N. Petherton, Bridg- water	1	0	0
*Methuen, Field Marshal Lord, C.B., C.M.G.	Corsham Court, Wilts.	2	0	0
*Meyrick, Sir G. A. E. T., Bart	Hinton Admiral, Christchurch, Hants	2	0	0
Meyrick, Lady	Hinton Admiral, Christchurch, . . Hants	1	1	0
*Mildmay, Lord of Flete	Flete, Ivybridge, S. Devon	2	2	0
†Miles, Lieut.-Col. Sir Charles W.. Bart.	The Manor House, Walton-in- Gordano, Clevedon . . . . .	..	..	..
Miles, H.	Auctioneer, Farrington Gurney, Bristol	1	0	0
Millard, F. J.	Bridge Farm, Butleigh, Glastonbury	1	0	0
Miller-Hallett, A.	Goddington, Chelsfield, Kent	1	1	0
Mills, B. W.	31, Cambridge Place, Paddington, London, W.	1	0	0
Mitchell, Major A. B.	Hill End, Henbury, near Bristol	1	0	0
Mitchell, Major F. A.	Doughton House, Tetbury, Glos.	1	0	0
Mitchell, Capt. H. G.	Tiptoe Lodge, Hordle, Hants	1	0	0
Molassine Co. (Ld.)	East Greenwich, London, S.E.	1	0	0
Mond, Sir Alfred, Bart., M.P.	Melchet Court, Romsey	1	1	0
Moody, C.	Maisemoor, Evercreech	1	0	0
Moody, G. W.	Stapleton, Martock, Somerset	1	0	0
Moore, G.	Folly Farm, Polsham, Wells	1	0	0
†Moore, H. F.	Renee House, 48, Dulwich Road, Herne Hill, S.E. 24 . . . . .	..	..	..
Moore, M. H..	The Hellyers, Ipplepen, Newton Abbot	1	1	0
†Moore-Stevens, J. R. C.	Woodhayes, Whimpe, Devon . . . . .	..	..	..
Moore-Stevens, Col. R. A.	Bellenden, Exeter	1	0	0
Morcom, Mrs. F. I.	Clock House, Bromsgrove	1	0	0
Morgan, Bros.	Henlade Farm, Taunton	1	0	0
Morgan, Major L. H. C.	Woolcombe, Wellington, Somerset	1	0	0
Morland, J. C.	The Orchard, Street, Somerset	1	0	0
*Morley, Earl of	Saltram, Plympton, Devon	2	0	0
Morris, Capt. T. R.	Sketty Park, Sketty, R.S.O., Glam.	1	0	0

Subscriptions.

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Name	Residence	Subscriptions.
		£ s. d.
Morris, Sir R. A., Bart. ..	Sketty Park, Swansea ..	1 0 0
Morris, Son & Peard. . .	Auctioneers, North Curry, Taunton ..	1 0 0
Morrison-Bell, Col. E. F. ..	The Close, Tetbury, Glos. ..	1 0 0
*†Morrison, Hugh, M.P. ..	Fonthill House, Tisbury, Wilts ..	..
Morrison, Major J. A., D.S.O.	Basildon Park, Goring, Reading ..	1 0 0
†Morrison, J. A.	Basildon Park, Reading ..	..
Mortimer, Capt. A. E. ..	Wall's Court, Stoke Gifford, near Bristol ..	1 0 0
Mortimer, Major M. W. ..	Longleat Estate Office, Warminster ..	1 1 0
Mountain, H. S.	Groombridge Place, Kent ..	1 0 0
Mount-Edgecumbe, Earl of ..	Mount Edgecumbe, Devonport ..	1 1 0
Muntz, Mrs. J. O.	Foxhams, Horrabridge, S. Devon ..	1 0 0
Murch, J.	Charlton Mackrell ..	1 0 0
Murray Smith, Hon. Mrs. ..	Gumley Hall, Market Harborough ..	1 0 0
Napier, H. B.	Ashton Court Estate Office, Long Ashton, Bristol ..	1 1 0
Napier, Capt. W. E. . . .	Upton House, nr. Sandwich, Kent ..	1 0 0
Naumann, C. C.	Crossways, Baynards, Horsham ..	1 0 0
Naumann, J. H.	Crossways, Baynards, Horsham ..	1 0 0
Neal, W. H.	Yealmpstone Farm, Plympton ..	1 1 0
Neame, F. & T.	Macknade, Faversham ..	1 0 0
Neeld, Sir A. D., Bart., C.B.	Grittleton, Chippenham ..	1 0 0
Nelder, C. W.	Carnarvon Arms, Dulverton, Somerset ..	0 10 0
Neville, Mrs. M. H. . . .	Copthorne Farm, near Crawley, Sussex ..	1 0 0
†Nevill, Lieut.-Commander Ralph, R.N.	Butleigh, Glastonbury ..	..
†Neville-Grenville, Robert ..	Butleigh Court, Glastonbury ..	..
New. H. G.	Craddock, Cullompton, Devon ..	1 0 0
Newman, Sir R. H. S., Bart., D.L., M.P.	Mamhead Park, near Exeter ..	1 1 0
Newton, A. E.	Dipford House, Trull, Taunton ..	1 1 0
Newton, Chambers & Co. (Ld.)	Thorncliffe, near Sheffield ..	1 1 0
Nicholets, E. C.	The Lons, Bittou, Gloucestershire ..	1 0 0
Nichols, G.	Demarara House, Colston Avenue, Bristol ..	1 0 0
Nicholson, R. F.	Woodcott, Whitchurch, Hants ..	1 0 0
Nicholls, A. W.	Lorna Doone, Rustic Works, Barnstaple ..	1 0 0
Nix, J. A.	Tilgate, Crawley, Sussex ..	1 1 0
Nixon, W.	The Cottage, Offchurch, Leamington ..	1 0 0
*Normanton, Earl of ..	Somerley, Ringwood ..	2 0 0
Northey, G., J.P.	Cheney Court, Box, Wilts ..	1 0 0
*Northumberland, Duke of ..	Albury Park, Guildford ..	2 0 0
Nurse, F. G.	Wick Farm, Coxley, Wells ..	1 0 0
Nutt, Mrs. H. J.	Hampton House, Hampton-in-Arden, Warwick ..	1 0 0

Name.	Residence.	Subscriptions.		
		£	s.	d.
†O'Hagan, Lord .. ..	.. ..	..	..	..
O'Halloran, Miss P.	Fairwood Lodge, Killay, Glam. ..	1	0	0
Onslow, Countess of	Clandon Park, near Guildford ..	1	0	0
Orde Powlett, Hon. N. A. ..	Bolton Hall, Leyburn, Yorks. ..	1	0	0
*†Oppenheimer, Sir B., Bart.	.. ..	..	..	..
Osmond & Son	Grimsby	1	0	0
Paddison, W. P.	Research Department, Royal Arsenal, Woolwich, London, S.E. 18	1	0	0
Paget, L. C.	Middlethorpe Hall, Yorks. ..	1	0	0
*Paget, Sir Richard, Bart. ..	74, Strand, London, S.W.1. ..	2	0	0
†Palmer, J. H.	Pinewood, Burnham-on-Sea' Somerset .. ..	..	..	..
Palmer, W. H.	York Buildings, Bridgwater ..	1	0	0
Palmer, Mrs. W. Howard ..	Heathlands, Wokingham, Berks	1	0	0
Palmer, Brig.-Gen. G., Lt.C.B.	Bearfield, Bradford-on-Avon, Wilts	1	0	0
Palmer, Major W. L., M.C. ..	Godmersham Park, Canterbury ..	1	0	0
†Parker, Hon. Cecil T. ..	The Grove, Corsham, Wilts ..	..	..	..
*†Parker, F. J.	Plymouth Street, Swansea ..	..	..	..
Parker, L. M.	14, Sketty Road, Swansea ..	1	0	0
Parke, Miss M. M.	Lapal House, Quinton, Birmingham	1	0	0
*Parry, J. E.	Talybryn, Bwlch, S.O., Breconshire	2	2	0
Parry-Okeden, Lieut.-Col. U. E. P.	Turnworth, Blandford	1	0	0
Parsons, F. J.	Venn Barton Stud Farm, Beaworthy, N. Devon	1	0	0
†Parsons, J. D. Toogood ..	Grasmere, East Hoathley, Sussex ..	..	..	..
†Parsons, R. M. P.	Misterton, Crewkerne .. ..	..	..	..
Parsons, F. W.	Speckington, Ilchester	1	0	0
Partridge, A. A.	Mordref, Plympton, Devon ..	1	0	0
Pass, Captain A. D.	Manor House, Wootton Fitzpaine, Charmouth, Dorset	1	0	0
Patey, Rev. C. R.	Stowford House, Ivybridge ..	1	1	0
Pawlyn, J. H. W.	Messrs. Ransomes, Sims & Jefferies (Ld.), Orwell Works, Ipswich	1	0	0
Peace, A. H.	Creech St. Michael, near Taunton ..	1	0	0
Peacock, Sir W.	3, Buckingham Gate, London ..	1	1	0
Pearce, C. E.	Sea Mills Farm, near Bristol ..	1	0	0
Pearce, E.	Parsonage Farm, Long Ashton, Bristol	1	0	0
Pearce, J.	Parsonage Farm, Long Ashton, Bristol	1	0	0
Pearce, T. H.	Parsonage Farm, Long Ashton, Bristol	1	0	0
Pearcey, T. J.	Peardhill, Tiverton, Devon ..	1	0	0
Peel, Major E. Morton ..	St. Leonards, Langland, near Swansea	1	0	0
Pelly, H. C.	Kentwins, Nutfield, Surrey ..	1	0	0
Penberthy, Professor J. ..	Dean Hall, Newnham, Glos. ..	1	0	0

Subscriptions.

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Name.	Residence.	Sub- scriptions.		
		£	s.	d.
*Pender, Major H. Denison, D.S.O.	Strangways, Marnhull, Dorset . .	2	0	0
Pendarves, W. Cole	Pendarves, Camborne, Cornwall . .	1	1	0
Penny, F. W.	Greenway House, Taunton . . . .	..	..	..
Penson, F.	Taston, Charlbury, Oxon.	1	0	0
Pepper, W. F.	New Redlynch Farm, Bruton	1	0	0
Perfect Patent Company	195, High Street, Brentford, Middlesex	1	0	0
Perkins, Col. E. K., M.P. . . .	31, Winn Road, Southampton	1	1	0
Perkins, F. H. S.	Wye Croft, Monmouth	1	0	0
Petherick, R., jun.	Acland Barton, Landkey, Barn- staple	0	10	0
Petley, C. & Co.	Staple, Canterbury, Kent	1	0	0
Petters (Ld.)	Yeovil	1	0	0
Pettifer, T. & Co.	Eydon, Banbury	1	0	0
Peyton, E. P.	Woodcote Lodge, Kenilworth	1	0	0
Phillips, Sir L. R. . . . .	.. .. .	1	1	0
Phipps, C. B. H.	Chalcot, Westbury, Wilts	1	0	0
Phipps, Hornby, Capt.	Hornblossom House, Alford, Som. . .	1	0	0
Piggott Brothers & Co.	220, 222, 224, Bishopsgate Street Without, London, E.C.	1	0	0
Pike, C. A.	Chilean Nitrate Committee, Friar's House, 39-41, New Broad Street, London, E.C.2.	1	0	0
Pinkstone, C. G. (Pinkstone (Ld.)	24, Church St., Temple, Bristol . .	1	1	0
†Pinney, R. W. P.	Somerton, Somerset . . . . .	..	..	..
*Plymouth, Earl of	Hewell Grange, Bromsgrove	4	0	0
*Poltimore, Lord	Court Hall, North Molton, Devon . .	2	2	0
Poole, Mrs. A. R.	King's Hill, Dursley	1	1	0
Poore, Capt. J.	Estate Office, Badminton, Glos. . . .	1	1	0
Pope, Alfred	Dorchester	1	0	0
Pope, A.	Henstill, Sanford, Crediton	1	0	0
Pope, John	Nowers, Wellington, Somerset . . .	1	0	0
Popham, H. L.	Hunstrete House, Pensford, Bristol .	1	0	0
Popham, Mrs. H. L.	Hunstrete House, Pensford, Bristol .	1	0	0
Porter, F. H.	Greenway Park, Chippenham	1	1	0
Porter, W. J. H.	Glendale Farm, Wedmore	1	0	0
†Portman, Viscount	Buxted Park, Uckfield, Sussex . . .	..	..	..
Portsmouth, Earl of	Barton House, Morchard Bishop, Devon	1	0	0
Powell, G. F.	10, Beaufort West, Bath	1	0	0
Powlett, A. T.	42, Milsom Street, Bath	1	0	0
Preston-Jones, A.	Mickleover House, near Derby . . .	1	0	0
†Price, Sir Francis, Bart.	Hensol Castle, Pontyclun, Glamorgan .	..	..	..
Price, J. H.	Higher Hill Farm, Butleigh, Glastonbury	1	0	0
Price, W. S.	Nantymadog, Cray, Brecon	1	0	0
Prichard, H. L.	Penmaen, R.S.O., Glam.	1	0	0
Pritchard, E.	Wood Hill Park, Wootton Bassett, Wilts	1	0	0

Name	Residence	Sub- scriptions		
		£	s.	d.
Pritchard, W. A.	Brentmoor, Brent, South Devon ..	1	0	0
Proctor, H. & T. (Ld.) ..	Cathay, Bristol	1	1	0
Proudfoot, W.	Tor Gate, Princetown, Devon ..	1	0	0
Pullen, J. W.	Compton Greenfield, Bristol ..	1	0	0
Pursesey, C. E.	Bailey's Court, Stoke Gifford, near Bristol	1	0	0
Pyke, C. C.	Capel Leyse, Holmwood, Surrey ..	1	1	0
Pyke Nott, E. G. I. ..	Haines Hill, Taunton	1	0	0
*Pyman, Sydney	Pigeon House, Ross-on-Wye ..	2	2	0
Quantoock Vale Cider Co. ..	North Petherton, Bridgwater ..	1	0	0
Quested, J. E.	Cheriton, Kent	1	0	0
Quicke, Capt. L. A... ..	Newton House, Newton St. Cyres	1	0	0
Radcliffe, Wynham Ivor ..	Druidstone, near Cardiff	1	0	0
*†Radnor, Earl of	Longford Castle, Salisbury			
Rawlence, Ernest A. ..	St. Andrew's, Salisbury	1	0	0
Rawlence, G. Norman ..	Salisbury	1	0	0
†Rawlence, Major M., D.S.O., R.E... ..	c/o Lloyd's Bank, Cox's Branch, 16, Charing Cross, London, S.W.1 ..			
Rea, F. H.	Kite's Nest Farm, near Wotton- under-Edge, Glos.	1	0	0
Reading Corporation ..	Manor Farm, Whitley, Reading ..	1	0	0
Readhead, R.	Great House, Hambledon, Godalming	1	0	0
Reed, P. J.	Bineham, Long Sutton, Langport	1	0	0
Reed, R. E.	Bineham, Long Sutton, Langport	1	0	0
Rees-Stokes, C. W. ...	Warwick House, Tenby	1	0	0
Reeves, Robert and John, and Son	Bratton Iron Works, Westbury, Wilts	1	0	0
Rennie, J. H.	Porthycarne, Usk, Mon.	1	0	0
Reynolds, Sylvanus ..	.. ..	1	0	0
Richardson, Capt. A. ..	Seven Springs, Cheltenham	1	0	0
*Ridley, Col. H. M. ..	Maperton, Wincanton	2	0	0
Riley, Capt. W. L. ..	Dunboyne, Minehead	1	1	0
Ritchie, W.	Marks Hall, Margaret Roding, near Dunmow, Essex	1	0	0
Roach, W.	Trewidden, Buryas Bridge, Cornwall	1	0	0
Roberts, C. M.	9a, York Street, Bath	1	0	0
Roberts, K., M.I.M.E. (J. Coultas, Ld.)	Normanden, Belton Lane, Grantham	1	0	0
Robins, O. T. and A. F. ..	Lidcott Hall, High Bray, South Molton	1	0	0
Robinson, E. S. & A. (Ld.) ..	Redcliffe Street, Bristol	1	1	0
Robinson, John & Co. ..	Bristol	1	1	0
Rogerson, R. W. (Ward & Co., Seedsman)	Northgate Street, Bath	1	0	0
Rolleston, S. V.	15, Brock Street, Bath	1	0	0

Subscriptions.

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Name.	Residence.	Sub- scriptions.		
		£	s.	d.
Roper, Geoffrey D.	Forde Abbey, Chard	1	0	0
Roundway, Col. Lord, C.M.G., D.S.O., M.V.O.,	Roundway Park, Devizes	1	0	0
Roundway, Lady	Roundway Park, Devizes	1	1	0
Rouse-Boughton, Sir W. St. A., Bart.	Downton Hall, Ludlow	1	0	0
Rouse-Boughton, Lady	Downton Hall, Ludlow	1	0	0
Rowcliffe, E. L.	Stovolds Hill, Cranleigh, Surrey	1	1	0
Rowcliffe, H. S.	Knole Lodge, Langton Green, Tunbridge Wells	1	0	0
Rowland, P. S.	Fairy Hill, Reynoldston, Gower, Glam.	1	0	0
Rowcliffe, W. C.	Hillside, Bidborough, Kent	1	0	0
Royal Guernsey Agricul- tural and Horticultural Society	Guernsey	1	0	0
Rubeck, O. P.	"Valencia," Meath Green, Horley, Surrey	1	1	0
*†Rubin, Bernard	Halsted, Kent			
Runtley Pedigree Pig Farm (Ld.)	Runtley Wood Farm, Sutton Green, near Guildford	1	0	0
Russell, G.	North Hill Farm, Dundry, near Bristol	1	0	0
Russell-Smith, A.	North Houghton Manor, Stock- bridge, Hants	1	0	0
Ruston & Hornsby (Ld.)	Grantham	1	0	0
†St. Audries, Lord	St. Audries, Bridgwater			
St. John, Col. the Hon. Roland	Langford Budville, Wellington, Somerset	1	0	0
St. John of Bletsoe, Lord	Melchbourne Park, Beds.	1	0	0
Sale, A. W.	The Gables, Rotherfield, Tun- bridge Wells	1	0	0
Salter, Benjamin	Newlands, Broadclyst, Exeter	1	0	0
Salter, T.	Beare Farm, Broadclyst, Exeter	1	0	0
Samuelson & Co. (Ld.)	Britannia Works, Banbury	1	1	0
Sanders, Lt.-Col. Right Hon. Sir R. A., Bart., M.P.	Bayford Lodge, Wincanton	1	0	0
Saunders, H. B. T.	Woodside Farm, Sparkford	1	0	0
Saunders and Biss	172, Sidwell Street, Exeter	1	0	0
Savile, Capt. W. T.	Ven, Milborne Port, Somerset	1	1	0
Sawtell, G. H.	Kingweston, Taunton	1	0	0
Sayers, Messrs.	Groundwell Manor, Blunsdon, Swindon	1	0	0
Scrattton, A.	Woodleigh, Bradford-on-Avon, Wilts	1	0	0
Scrattton, Mrs. A.	Woodleigh, Bradford-on-Avon, Wilts	1	0	0
†Seaton, Lord	Buckland Abbey, Yelverton, Devon			
Senior and Godwin	Auctioneers, Sturminster Newton, Dorset	1	1	0

Name.	Residence.	Subscriptions.		
		£	s.	d.
Shaw, Col. F. S. Kennedy, C.B.E.	Teffont Magna, Salisbury	1	1	0
Shaw, W. B. K.	Teffont Magna, Salisbury	1	0	0
†Shaw-Stewart, Walter R. . . .	Hayes, Shaftesbury . . . . .	..	..	..
Sheldon, R. F.	West Street House, Wells	1	1	0
Shellabear, G. C.	Mounty Tavy, Tavistock	1	1	0
*Shelley, Sir John, Bart. . . .	Shobrooke Park, Crediton	2	2	0
*Shelley, J. F.	Posbury House, near Crediton . . .	2	2	0
Shelley, Mrs. J. F.	Posbury House, Crediton	1	0	0
Sheppard, G.	Eastfields House, Chepstow Road, Newport, Mon.	1	0	0
Sheppard, P. C. O.	Dunraven Estate Office, Bridgend, Glam.	1	1	0
Sheriff, W. F.	Ascots, Hatfield, Herts	1	0	0
Sheriff & Sons	Lemsford, Hatfield	1	0	0
†Sherston, C. J. T.	The Quarry, Amberley, Sussex . .	..	..	..
†Sherston, T. P. D.	33, Fowler's Road, Salisbury . . .	..	..	..
*Sidmouth, Viscount	Upottery Manor, Honiton	2	0	0
Silcock, R. & Sons	Stanley Hall, Union Street, Liver- pool	1	0	0
Simpson, J. Hope	Blagroves, Oake, Taunton	1	0	0
*Singer, W. M. G.	42, Charles Street, Berkeley Square, London, W.1.	2	0	0
Skidmore, Miss E.	Ashleigh Leigh, Box, Wilts . . .	1	0	0
Skinner, Board & Co.	Exmoor Street, Bristol	1	0	0
Skinner, G. C.	Pound, Bishops Lydeard	1	1	0
Slatter, J. R.	Banwell, Somerset	1	0	0
Smart, G. E.	Combe Hay Manor, Bath	1	1	0
Smith, A. Carlyle	Sutton Hall, Woodbridge, Suffolk	1	0	0
Smith, D.	Court Farm, Stoke Gifford, near Bristol	1	0	0
Smith, A. J. (Ld.)	9, Queen's Square, Bristol	1	0	0
Smith, E. A.	Longhills, Lincoln	1	0	0
Smith, H. C.	9, Union Terrace, Plymouth . . .	1	0	0
Smith, J.	Monkton, Hereford	1	0	0
Smyth, Hon. G. N.	Ashton Court, Bristol	1	0	0
Smyth, Hon. Mrs.	Ashton Court, Bristol	1	0	0
Smyth-Richards, G. C.	Filleigh Lodge, nr. Barnstaple . .	1	0	0
Sochon, T. H.	Tanfield Tye, West Hanningfield, Chelmsford	1	0	0
Somerset, Duke of	Maiden Bradley, Bath	1	0	0
Somerset Farm Institute	Cannington, near Bridgwater . .	1	0	0
Somerset Trading Co. (Ld.) . . .	Bridgwater	1	1	0
†Somerville, A. F.	Dinder House, Wells, Somerset . .	..	..	..
Southwell, G. R.	Holbury Farm, Lockerley, near Romsey	1	0	0
Southwood, J. W. C.	1, St. Peter's Terrace, Twerton, Bath	1	0	0
Spear Brothers & Clark (Ld.) . .	Southgate Street, Bath	1	0	0
Speke, Capt. C.	Horton Cross, Ilminster, Somerset	1	0	0
Spencer, H. G.	Southill House, West Cranmore, Somerset	1	0	0

Subscriptions.

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Name	Residence	Sub- scriptions	
		£	s. d.
Spencer, W. C.	Bushley Park Farm, Tewkesbury	1	0 0
Spicer, Capt.	Spye Park, Chippenham	1	0 0
Spicer, Lady M.	Spye Park, Chippenham	1	0 0
Spiller, T. R... ..	Luccombe, Milton Abbas, Bland- ford	1	0 0
Spillers and Bakers (Ld) ..	Redcliffe Back, Bristol	1	1 0
*†Stanley, E. A. V... ..	.. ..	..	..
Stanley, Col. the Hon. A., D.S.O.	Sopworth, Chippenham, Wilts ..	1	0 0
*Starr, W. W.	2, Central Bdgs., Trethomas, Mon.	2	0 0
Stephens, T. A.	Hookstile House, South Godstone, Surrey	1	0 0
Stephenson and Alexander..	Auctioneers, Cardiff	1	1 0
†Stern, Sir Edward D. L. ..	Fan Court, Chertsey .. ..	..	..
Stevens, E.	Chapel Farm, Elmley Castle, Pershore, Worcester	1	0 0
Stevens, R. N.	Woodham Hall, Woking, Surrey ..	1	0 0
Stevenson, J. K. H.	The Chase, Upper Welland, Mal- vern Wells	1	0 0
Stewart, Rev. H. J.	The Vicarage, Cockett, Glamorgan	1	0 0
Stewart Richardson, Major R.	Idover House, Dauntsey, Chip- penham, Wilts	1	0 0
Stilgoe, H. W.	The Grounds, Adderbury, near Banbury, Oxon	1	0 0
Stirling, Mrs... ..	Trym Bank, Combe Dingle, near Bristol	1	0 0
Stirling, B. W.	Trym Bank, Combe Dingle, near Bristol	1	0 0
Stoddart, F.	The Denny, Portishead, Somerset	1	1 0
Stoffell, W. M.	Fairfield, Newbridge Hill, Bath ..	1	1 0
Stonehouse Works Co.	Spon Lane Mills, Houghton Street, West Bromwich	1	0 0
Storey, H. L.	The Manor House, Malmesbury ..	1	0 0
Storr, Mrs. R.	40, Mecklenburgh Sq., London ..	1	1 0
Storrar, J. I... ..	Tredegar Estate Office, Newport, Mon.	1	0 0
Stothert, Sir P. K., K.B.E.	1, Lansdown Place, West, Bath ..	1	0 0
Stott, F. J.	Wellesley Arms, Wells	1	0 0
†Strachie, Lord	Sutton Court, Pensford, Somerset..	..	..
†Strachey, Lt.-Col. the Hon. E.	Sutton Court, Pensford, Somerset..	..	..
Strafford, Earl of	Dancers Hill, Barnet	1	0 0
Stranack, Basil	"The Asteria" Poultry Farm, West Littleton, Marshfield, nr. Chippen- ham	1	0 0
Strangways, Miss S... ..	Shapwick Bridgwater	1	0 0
Stratton, Richard	The Duffryn, Newport, Mon. ..	1	0 0
Strauss, E. A.	Kingston Bagpuize, Abingdon, Berks.	1	0 0
Strawson, G. F., J.P.	St. Andrew's Works, Horley, Surrey	1	0 0
Stride, T.	Stanley House, Camden Road, Bath	1	0 0
Strode, G. S. S.	Newnham Park, Plympton	1	0 0

Name.	Residence.	Sub- scriptions.		
		£	s.	d.
Stucley, H. V. G.	Pillhead, Bideford, North Devon ..	1	0	0
Studley, J. Im.	Dale View, Toller Porcorum, Maiden Newton, Dorchester, Dorset	1	0	0
*Sutton, E. P. F.	Sidmouth Grange, near Reading ..	2	2	0
*Sutton and Sons	Seedamen, Reading	2	2	0
Swansea, Lord, D.S.O., M.V.O.	Caer Beris, Builth, Breconshire ..	1	0	0
Swanwick, Bruce	The Road House, Rodborough Common, Stroud	1	0	0
Swayne, Mrs. G.	Abbeywood, Burnham-on-Sea, Somerset	1	1	0
*Swayne, P. C.	Castle Hill House, Nether Stowey	2	2	0
Sword, Mrs. M.	Wescombe, Evercreech	1	0	0
Sykes, F.	Richings Park, Colnbrook, Bucks	1	0	0
Symons, J. & Co. (Ld.) ..	The Plains, Totnes	1	1	0
Tagart, Major-Gen. Sir H., K.C.M.G., C.B., D.S.O. ..	Feniton Court, Honiton, Devon ..	1	1	0
Tangyes (Ld.)	Cornwall Works, Birmingham ..	1	0	0
Tanner, R.	New House, Kingston Bagpuize, near Abingdon, Berks.	1	1	0
Tapp, David James	Knaplock, Winsford, Dulverton ..	1	0	0
Tate, Mrs. E.	Swinford Lodge, Rugby	1	0	0
Tate, J. A.	Fairfield, Wells, Somerset	1	0	0
Tavener, G. E.	Budlake, Devon	1	0	0
Taylor, A. H. W.	The Old Red House, New Bond Street, Bath	1	1	0
Taylor, E.	The Old Red House, New Bond Street, Bath	1	1	0
Taylor, E. J.	Penarth Lodge, Julian Road, Sneyd Park, Bristol	1	0	0
Taylor, L. Acland	City Librarian, Central Library, Bristol	1	0	0
Taylor, R. B.	Hendford Lodge, Yeovil	1	0	0
Taylor, W. W.	Carmel House, Loose, Maidstone ..	1	0	0
†Tazewell, W. H.	Manor House, Taunton .. ..	..	..	..
*†Temple, Earl	Newton St. Loe, Bristol .. ..	..	..	..
*Thackray, R.	Fords Farm, Calcot, nr. Reading ..	2	0	0
Thomas, A. O.	Kilvrough, Gower, Glamorgan ..	1	0	0
Thomas, I.	Ely Farm, Cardiff	1	0	0
Thomas, J.	Velindre, Kidwelly, Carmarthen- shire	1	1	0
Thomas-Stanford, C.	Preston Manor, Brighton	1	0	0
Thomas & Evans & John Dyer (Ld.)	Swansea	1	0	0
Thompson, C. D.	Wenvoe, near Cardiff	1	0	0
Thompson, Major G. Malcolm	Manor House, Kington, St. Michael, Chippenham	1	0	0
*Thompson, Major J. C. ..	The Friary, Kings Bromley, Burton- on-Trent	2	2	0

Subscriptions.

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Name.	Residence.	Sub- scriptions	
		£	s. d.
Thompson, V. T. . . .	Norton Manor, Sutton Scotney, Hants	1	0 0
Thornton, H. G. . . .	Warmore, Dulverton	1	1 0
Thornton, W. A. . . .	. . . . .	1	0 0
Thresher, E. B. . . .	Corfe Hill, Weymouth	1	0 0
Thring, Sir Arthur T. . . .	Charlton House, Charlton Mackrell	1	0 0
Thurlow, G. R. . . .	Stowmarket	1	0 0
Thynne, Lt.-Col. U. O. . . .	Muntham Court, Worthing	1	0 0
Tiarks, H. A. . . .	Webbington House, Axbridge, Som. . . .	1	0 0
Tilley, T. H. . . .	Manor Farm, Biddisham, Axbridge	1	1 0
Tinsley, C. H. . . .	Twyford, Pembroke, R.S.O., Here- fordshire	1	0 0
Tipper, B. C. and Son	Balsall Heath, Birmingham	1	0 0
Titt, J. W. . . .	Implement Works, Warminster	1	0 0
Toogood, E. K. . . .	Messrs. Toogood & Sons, South- ampton	1	0 0
Tope, H., Jun. . . .	Belsford, Harberton, Totnes, Devon	1	0 0
Tory, R. . . .	Charisworth Manor, Blandford, Dorset	1	0 0
Tory, R. N. . . .	Anderson, Blandford, Dorset	1	0 0
Townend, F. . . .	Highfield Moor, Allerton, Leeds	1	0 0
Trafford, G. R. . . .	Hill Court, Ross, Herefordshire	1	1 0
Trechmann, Major O. L. . . .	Westaway, Barnstaple	1	0 0
*Tredegar, Viscount	Tredegar Park, Newport, Mon. . . .	2	2 0
Treffry, I. de C. . . .	Penarwyn, Par Station	1	1 0
Treffry, Mrs. I. de C. . . .	Penarwyn, Par Station, Cornwall	1	0 0
Tregonning, Capt. G. N. . . .	Bevill's Hill, Bridgerule, near Hols- worthy, N. Cornwall	1	0 0
†Tremaine, W. H. . . .	Sherborne, Northleach, Glos. . . .	. . .	. . .
Tremayne, Capt. W. F. . . .	Carclews, Perran ar Worthal, Truro	1	1 0
Treowen, Major-General Lord	Llanarth Court, Raglan, Mon. . . .	1	0 0
Trevethan, W. . . .	Brondstone Hill, Chipping Norton	1	0 0
Trevilan, Major M. . . .	Curry Rivel, Taunton	1	0 0
†Tritton, Mrs. Ida Helena	The Rectory, Curry Mallet, near Taunton . . . . .	. . .	. . .
*Trollope-Bellew, Capt. Froude, D.S.O., M.C. . . .	Crowcombe Court, Taunton	2	0 0
Trotter, Miss	Chatley, Norton St. Philip, Bath	1	1 0
Trump, W. . . .	Borough Farm, Broadclyst, Exeter	1	0 0
Tubbs, Lawrence E. . . .	The Priory, Stevenage, Herts	1	0 0
Tucker, M. & Sons	Broad Quay, Bath	1	0 0
Tudway, Lt. L. C. P., D.S.O. . . .	Milton Lodge, Wells	1	0 0
Turnbull, F. H., J.P. . . .	Lower House Farm, Llantwit Major, near Cardiff	1	1 0
Turner, P. C. . . .	Day's Farm, Wilmington, Kent	1	0 0
Turnor, Lt.-Col. W. W. . . .	Pinckney Park, Chippenham	1	0 0
Tyler, A. T. . . .	Highbridge, Somerset	1	1 0
†Tyley, W. J. . . .	Manor Farm, Rodney Stoke, Wells	1	0 0
Unoles, B. . . .	21, Trowbridge Road, Bradford-on- Avon	1	0 0
Unite, John (Ltd.)	291, Edgware Road, London, W.2. . . .	1	1 0

Name.	Residence.	Subscriptions.		
		£	s.	d.
†Vacher, E. P.	Cowfold Lodge, Cowfold, Sussex . .	1	0	0
Veitch and Son	Exeter	1	0	0
Venn Carr (Ld.)	Maidstone Poultry Farm, Maidstone . .	1	0	0
Victoria Wagon Works Co. (Ld.)	Bristol	1	1	0
Vine & Co. (Ld.)	Cornhill Chambers, Swansea	1	1	0
Vivian, C. C.	"Craigsides," Langland, near Swansea	1	0	0
Waddell, J., J.P.	Ravelston, Tumble, near Llanelly . .	1	0	0
Waide, W. and Sons	Churn Works, Leeds	1	0	0
Wainwright, C. Donald	Summerleaze, Shepton Mallet	1	1	0
Waldegrave, Earl	Chewton Priory, Somerset	1	0	0
Walker, E. G. F.	The Hollies, Chew Stoke, Bristol	0	10	0
*Walker, Capt. P. L. E.	Great House, Chipping Sodbury, Glos.	2	0	0
Walker, H.	22, Victoria Square, Clifton, Bristol . .	1	0	0
†Walker, J.	Knightwick Manor, Worcester	1	0	0
Wallace, W. & R.	Knebworth, Herts.	1	0	0
Wallis and Steevens	North Hants Iron Works, Basingstoke	1	0	0
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9,780 " " " 2nd
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Sire, Iford Waterloo Duke, 102581,
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dam, Waterloo Rose, gave 10,598 lbs. in
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Iford Major Waterloo, 149520 (Roan),
Sire, Major Waterloo, 126725;
Dam, Dolphinlee Waterloo

Dam's Record:—

13,810 lbs. for year ending	Sept. 30, 1918.
10,923 " " "	Sept. 30, 1919.
9,400 " " "	Sept. 30, 1920.
9,236 " " "	Sept. 30, 1921.

Sire's Dam Lactation Record:—

14,010½ lbs.	Sept. 29, 1917.
13,881 " "	Jan 15, 1919.
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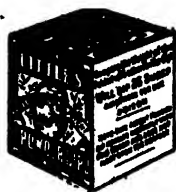


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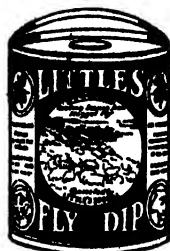


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